

Manufacturers Record

Industry Construction



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JUNE 12, 1930

South Making Industrial History

Nature was most generous in endowing the Southern states with basic raw materials—timber, coal, oil and gas, ores, stone, clays and minerals of great variety. In their development industry has created billions of wealth. The mills, mines and quarries of the South are supplying the nation with a large portion of its requirements.

Many Southern industries have taken rank with the greatest in the country in the volume and variety of their output. The South is producing over \$10,375,000,000 of manufactured goods each year and its mineral output has an annual value of about \$1,725,000,000. In addition, agriculture brings in about \$5,000,000,000 a year to Southern farmers. The aggregate productive power of the industries of the South alone almost equals the total produced by the entire country in 1900 and the United States at that time was recognized as a great manufacturing nation.

What has been achieved, however, is only a beginning. Through chemical research vast new sources of potential wealth are being unfolded, and in utilizing raw materials heretofore considered of no commercial value the South is making industrial history.

In the manufacture of nitrogen from the air, in the development of synthetic fibre, building board, and paper from Southern pine, and in the cellulose resources of the South's rapidly growing trees and plants are found illustrations of entirely new industries based on Southern raw materials heretofore unused.

Commercial development of newly-discovered potash deposits in Texas, which the Federal government indicates is possible, would open up additional sources of wealth.

From the lowly peanut there have been evolved a variety of semi-chemical products, ranging from dyes to vegetable milk—an almost perfect food. Almost as many possibilities have been found in the South's sweet potato crop.

Recently Thomas A. Edison, in his search for a rubber substitute, out of scores of tests is reported to have found what he desired in the common goldenrod of Georgia and Florida and other states. Imagination can readily picture what this would mean to Southern industry, should Mr. Edison's experiments prove of commercial value. Synthetic rubber, it is claimed, can be made from petroleum wastes. Should that discovery prove of commercial importance, the South with its enormous oil reserves and established refineries would be immeasurably benefited.

Even the Florida palmetto root, it is said, can be turned into a substance as light as wood, durable as concrete, and impervious to water.

In the South's immense coal and salt reserves are great sources of wealth awaiting the touch of the scientist. While many of these discoveries have advanced but little beyond the chemist's test-tube and the experimental stage, they open before us a new industrial vision which the investor and manufacturer, after applying the yardstick of commercial adaptation, will turn into reality.

354,000 Square Feet of Protection

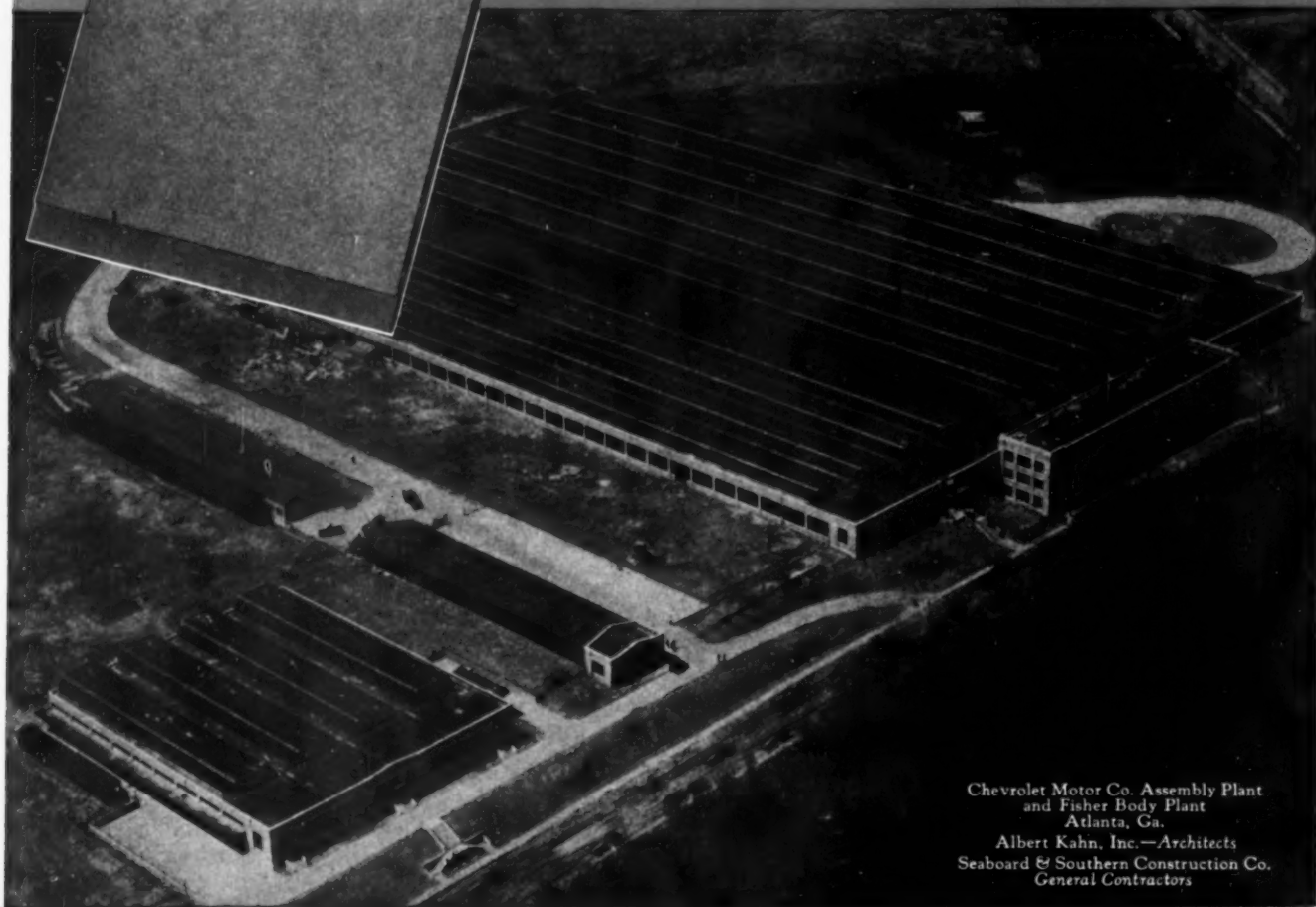
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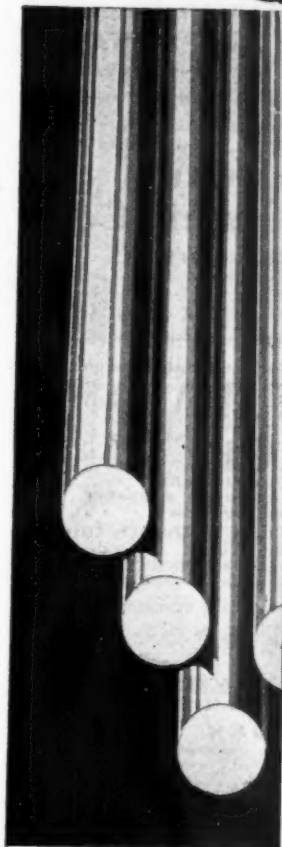
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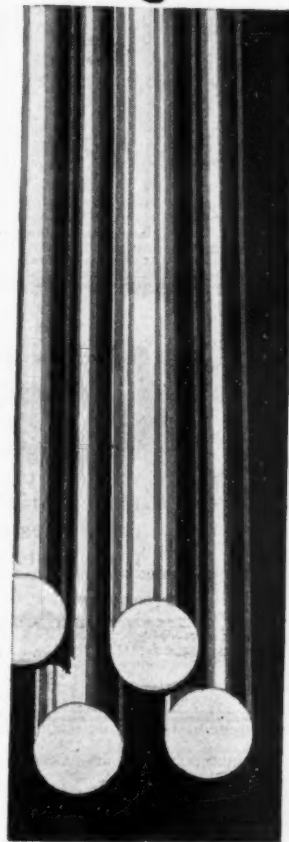
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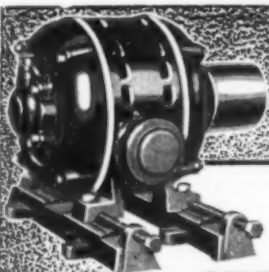


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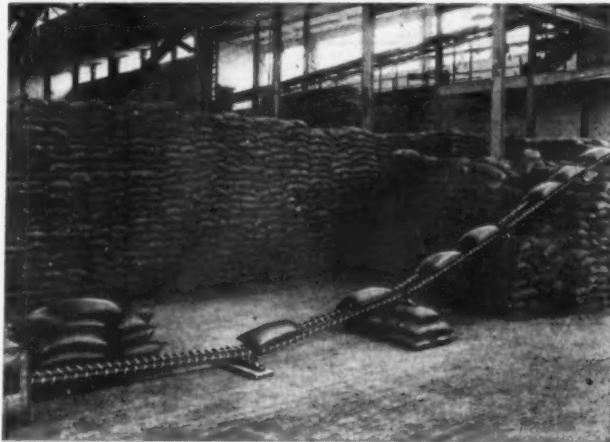


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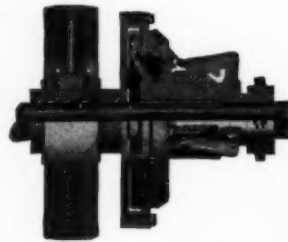
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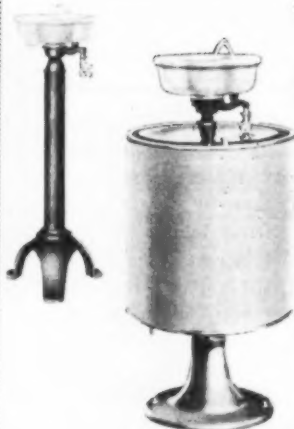
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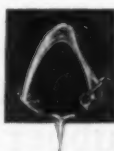
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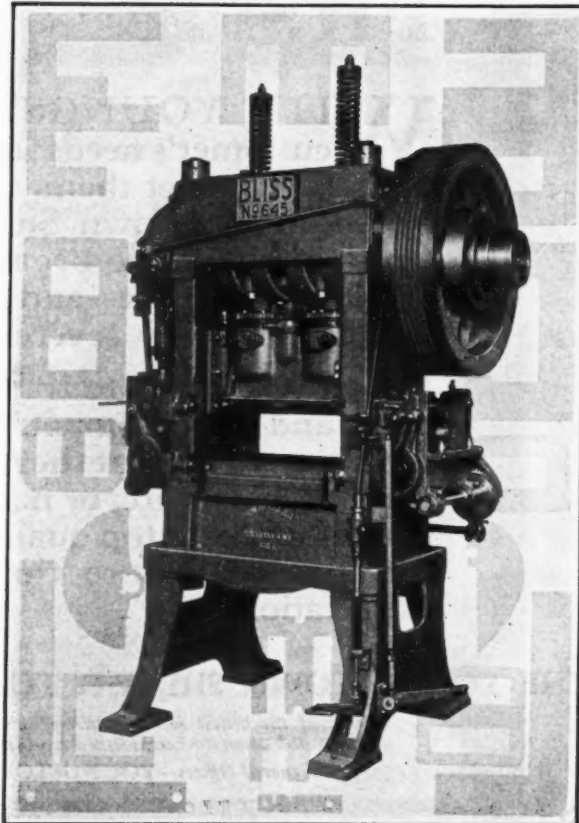
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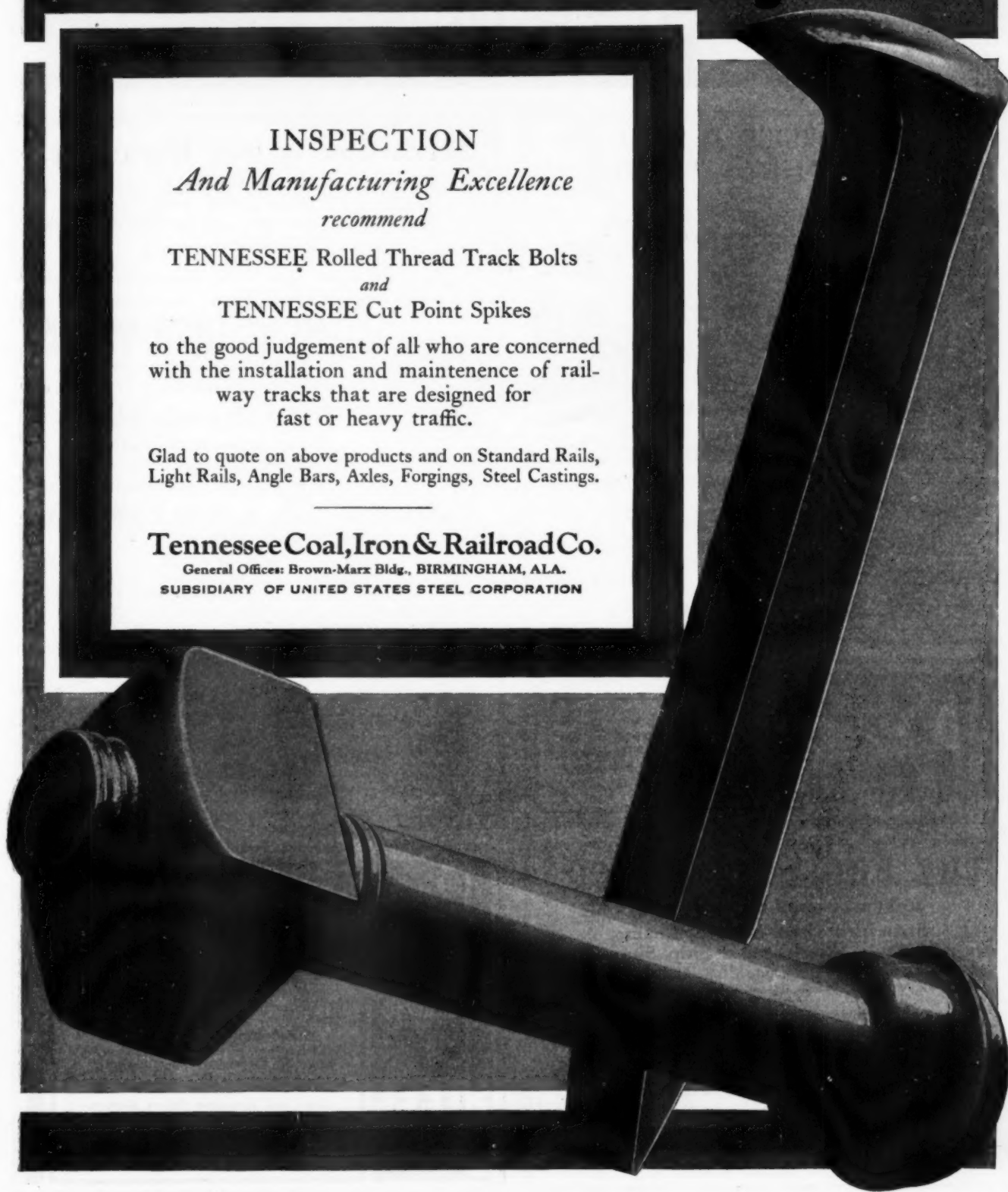
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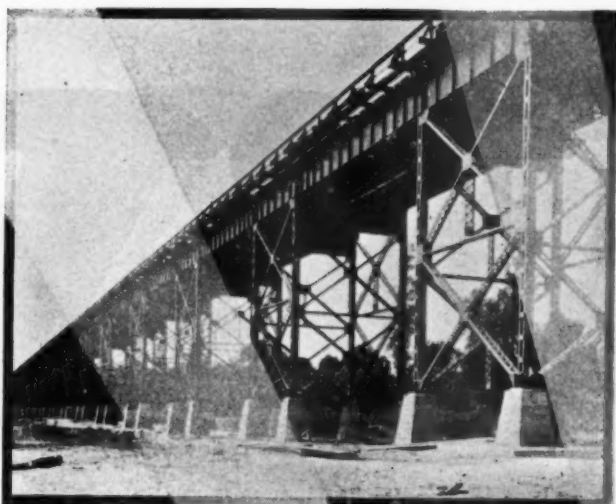
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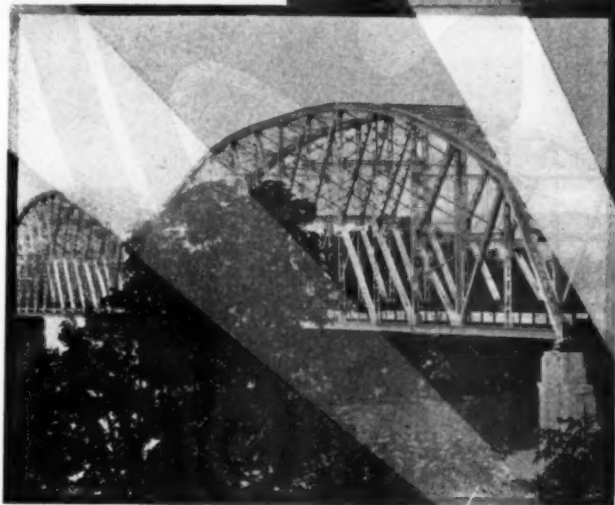
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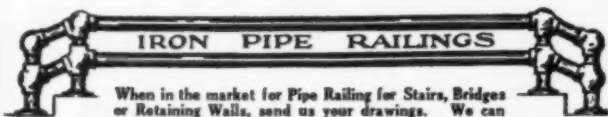
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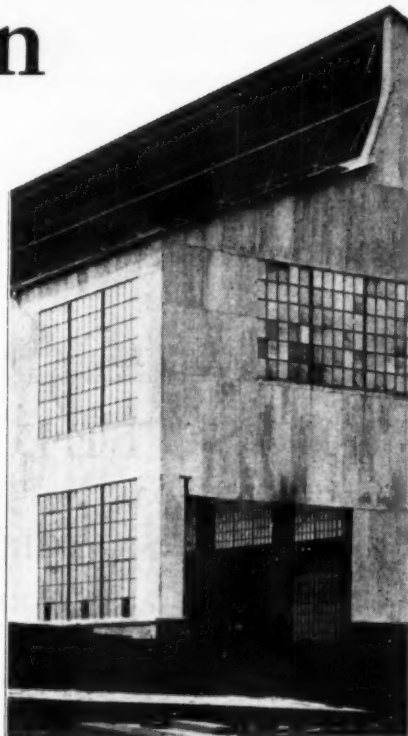
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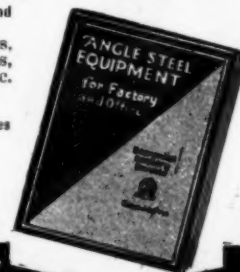
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**STRENGTH
THAT
LASTS**

Means **New
Pole Strength
in Old Lines**



*You get it
when you specify
AmCreCo poles
see next page —*



25th
Anniversary
1905-1930

The strength of a pole just before it is retired from service is more important to a designer than its strength when new. This future strength ought to be the determining consideration in choosing the pole size and factor of safety for a new line. As pointed out in our series of "Studies in Pole Line Design," the factor of safety is the margin between load and resisting ability when the load is greatest and the resistance is the least. Since the maximum load may come at any time, and the resistance never increases but with some poles decreases rapidly with age, it is clear that the critical condition on which the factor of safety should be based is that existing at the end of the assumed life of the pole, and not at its beginning.

Now, consider the application of this principle to a pole which is subject to decay. A 9 per cent reduction in effective diameter reduces the pole's strength approximately 25% and a 20 per cent reduction in size cuts the original strength in half. Unless the size of a pole in which this decay is possible is double the size indicated by an analysis of loads, or, to put it another way, is based on a factor of safety twice as great as considered necessary for the line under discussion, it will be too small for safety before the end of its life. And if this high factor of safety is used, the pole will be uneconomically large throughout its life.

How Unchanging Strength is made possible

The dilemma outlined above is avoided by the selection of AmCreCo poles which are characterized by "strength that lasts." They possess unusually high strength when new because Southern Yellow Pine far surpasses any other pole timber in this respect.

The relation of "strength that lasts" to all the factors in pole line design is quite clearly shown in a series of "Studies in Pole Line Design" which will be sent to any representative of a utility company on request.

What Strength Is Needed in a Pole Line?

They are so completely preserved by the Lowry empty cell process of full length creosoting that they not only show a long useful life but actually retain practically the full initial strength for thirty years or more—the equivalent of a full service life for most pole lines. This new pole strength in old lines can only be positively assured by a producer with facilities and determination to secure the best timber, to properly protect it before treatment, to know the source of all creosote oil used, and to excel in treating practice.

The record of this organization amply proves that its place of leadership has been won by strict adherence to these principles, the scale of its operations permitting a degree of control over the vital features in pole treatment which cannot be attained in a smaller organization.

Typical Installations

The advantage of "strength that lasts" as provided by AmCreCo poles applies to almost any line. When a heavy load is being carried the high allowable fibre stress of Southern Yellow Pine is particularly appreciated, in permitting the use of a pole which combines ample strength with pleasing dimensions. When the load is light this advantage shows up in larger spans as well as smaller poles. Most permanent lines have a life which makes the long service of AmCreCo poles attractive, but if changed conditions should render a line obsolete, it is often economical to move these poles to a new location. Since even a temporary failure of an important line would inconvenience many customers and involve excessive cost for emergency repairs, the practically constant factor of safety provided by AmCreCo poles is a decided advantage.

**STRENGTH
THAT
LASTS**

AMERICAN CREOSOTING COMPANY

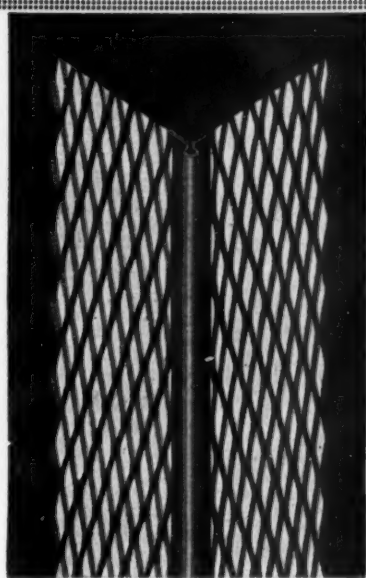
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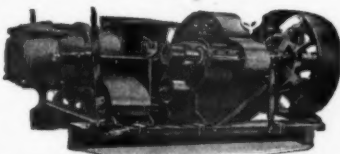
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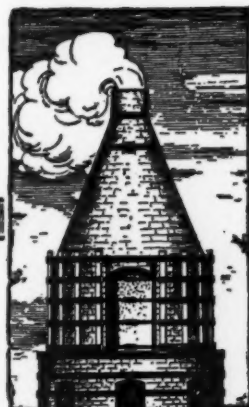
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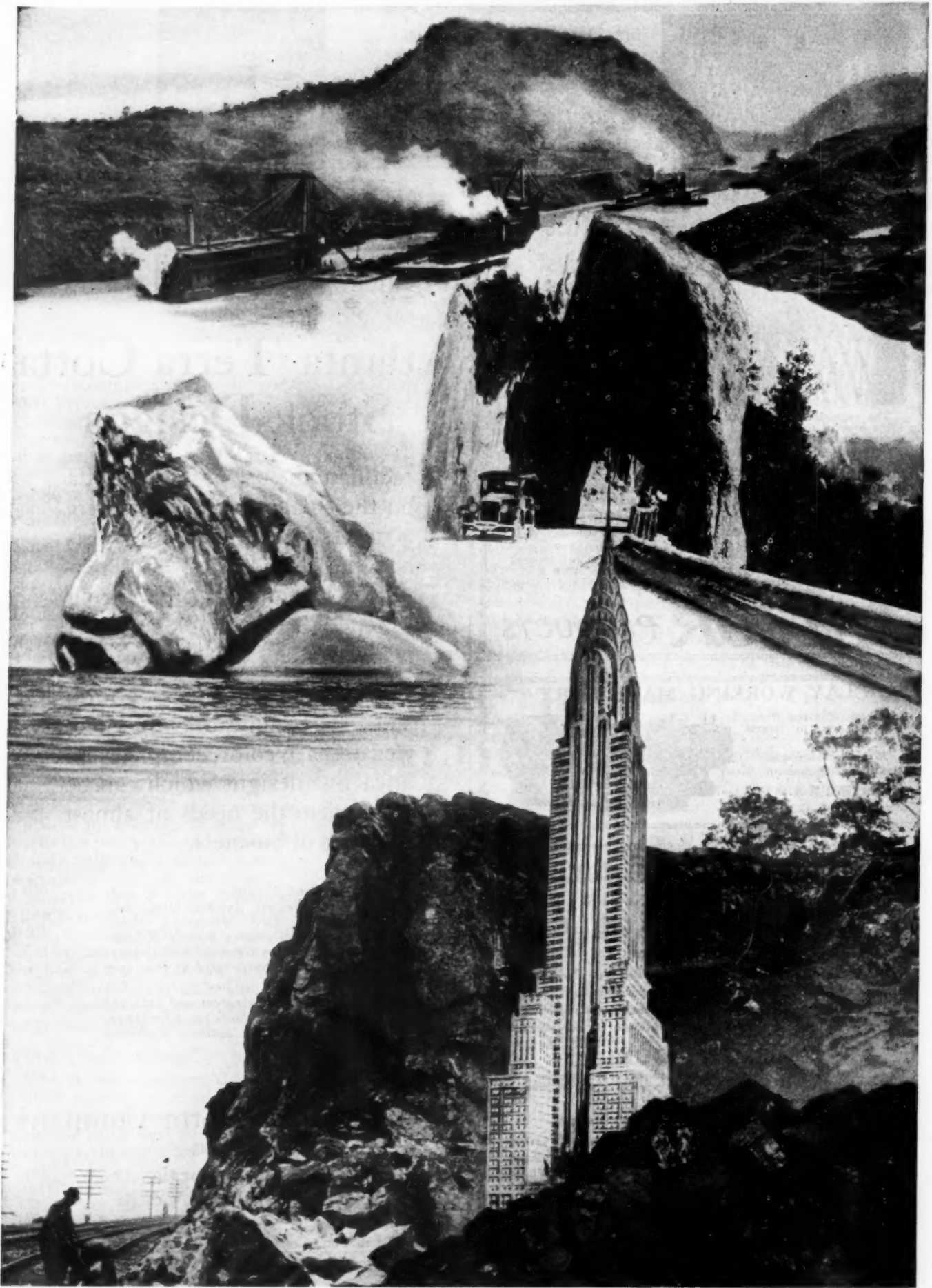
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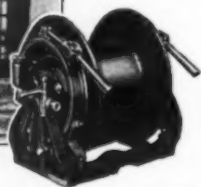
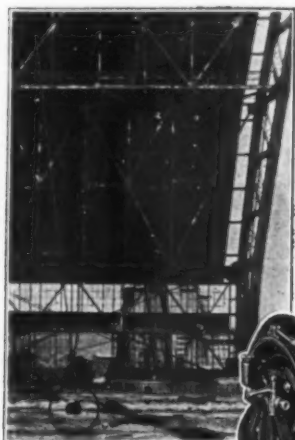
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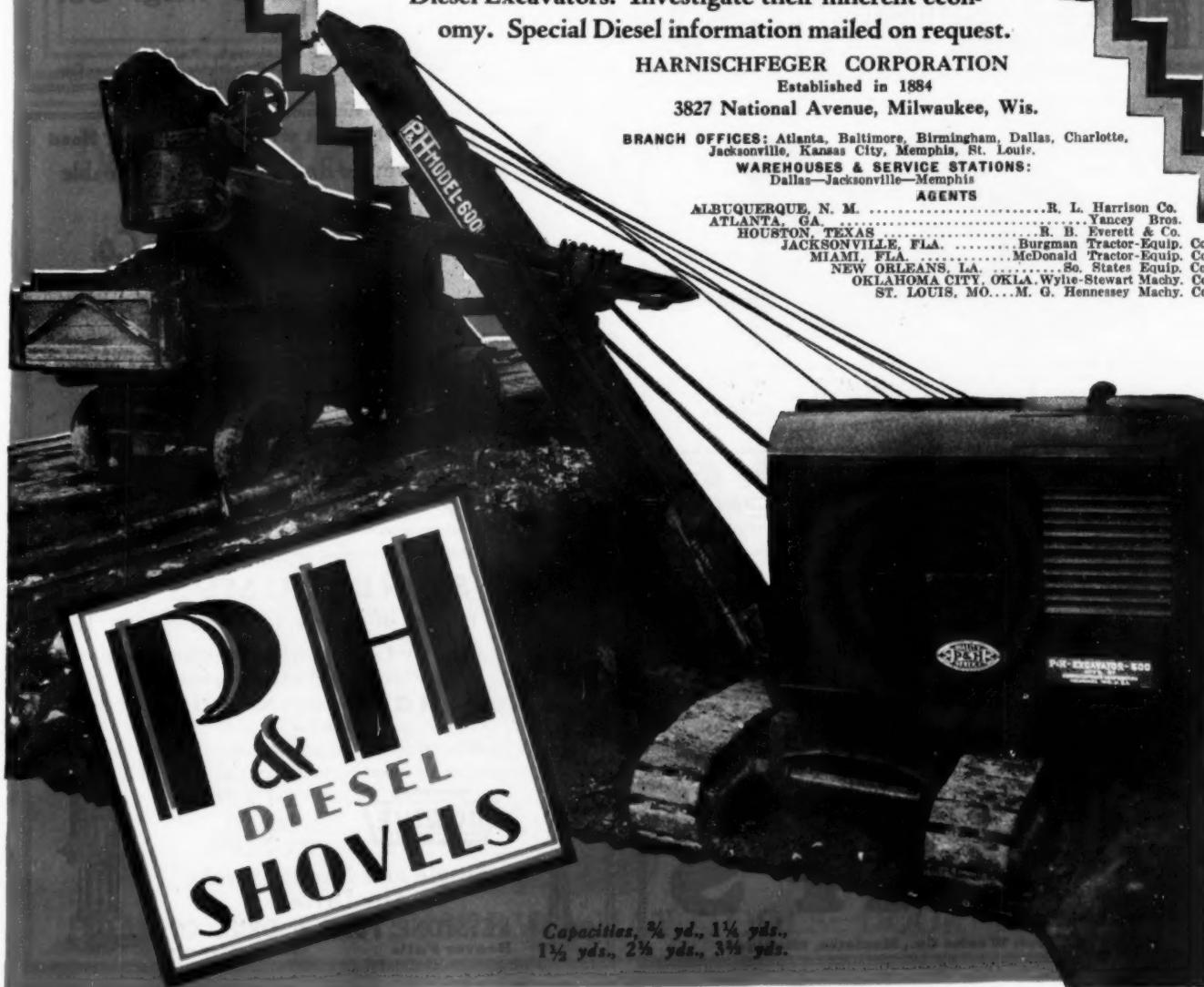
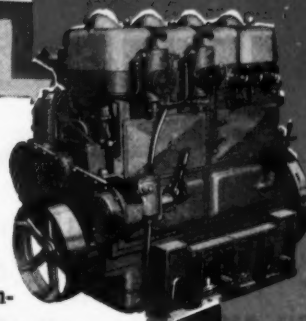
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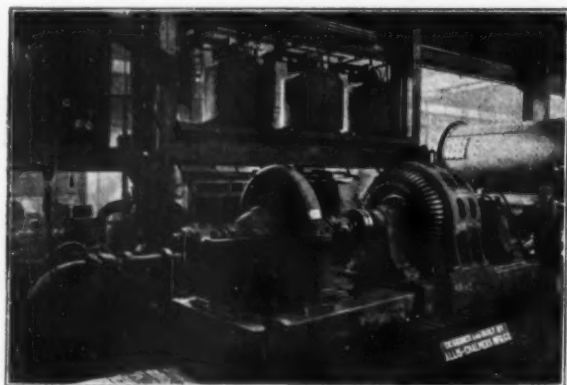
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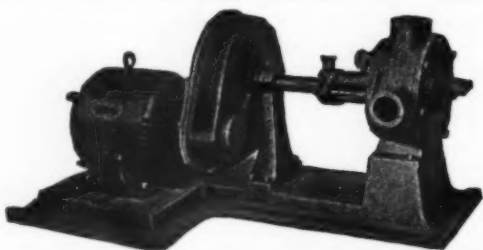


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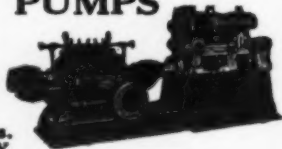
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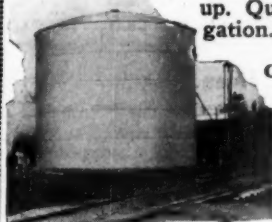
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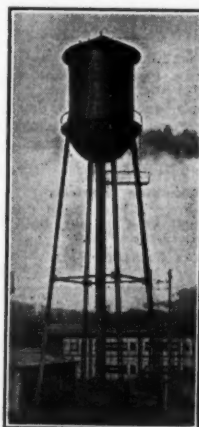
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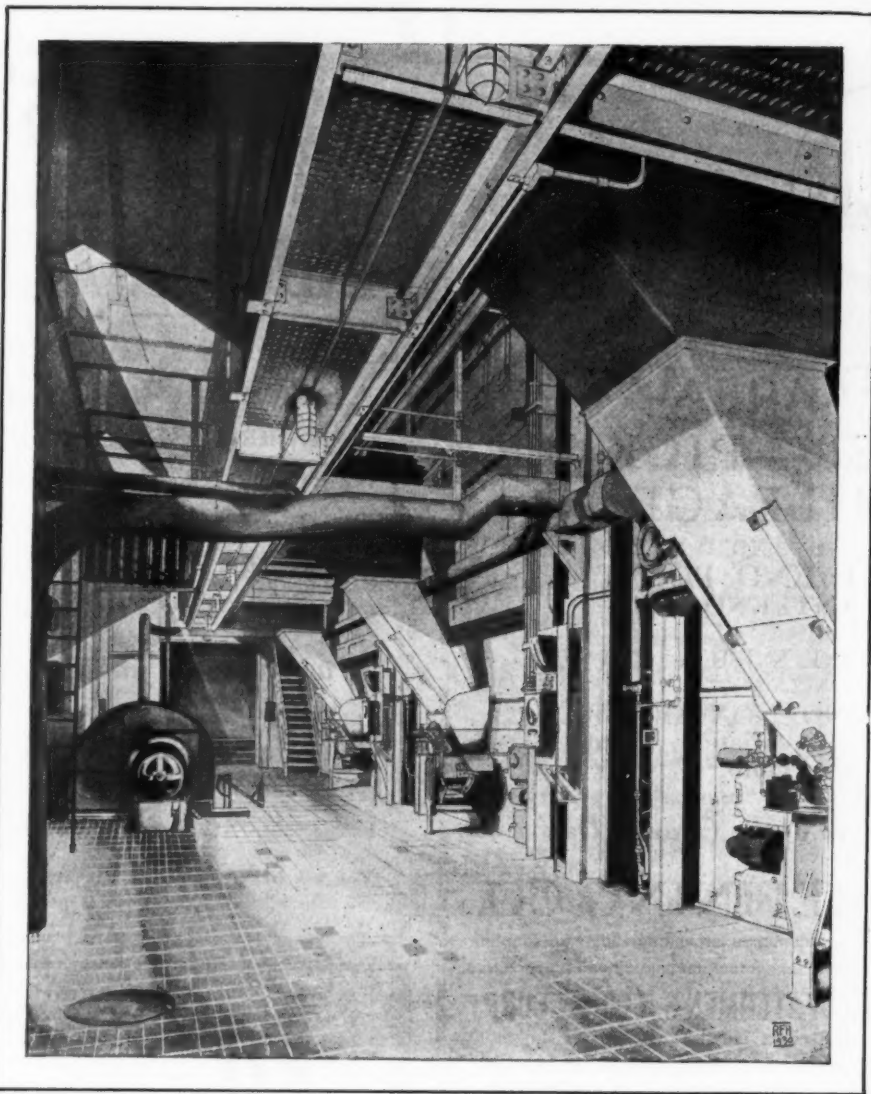
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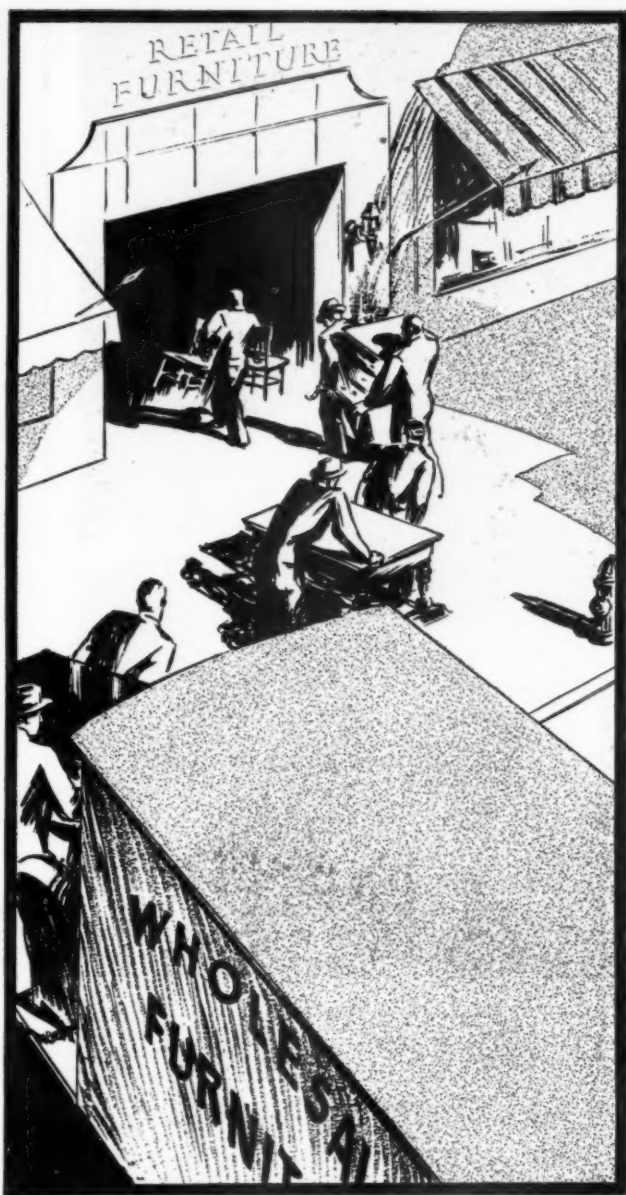
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TABLE OF CONTENTS

Baltimore, Md., June 12, 1930

EDITORIALS

South Making Industrial History.....	Cover Page
Foreign Cement to Be Used on South Carolina Roads.....	39
Governor Young's Sound Advice.....	40
Chile Orders American Engines by American Telephone.....	40
An Economic Program for the South.....	41
Henry Ford Sets Wise Example to Every Multi-Millionaire.....	41
Nitrate Industry's Growth Changes the Policies of Nations.....	42

NEWS and FEATURE ARTICLES

Overproduction in Cotton Manufacturing Nearing an End..By Leavelle McCampbell	43
80,000-Mile Natural Gas Transportation System Shows Steady Expansion.....	46
Contract for \$1,600,000 Coal Pier at Newport News.....	48
Helping Farmers to Become Better Credit Risks.....By Edward F. Lamb	49
Virginia State Plan of Rural Electrification Bringing Results.....	50
112,000 Horsepower Hydro-Electric Plant in Operation at Calderwood, Tenn.....	51
Developing the Stone and Marble of North Arkansas.....By Tom Shiras	52
The Small Industry and Capital.....By Fred B. Rakemann	53
"Romance in Alabama".....By John Temple Graves, II	54
Floating Electric Power Plant Under Way.....	55
Contract for \$2,200,000 Tunnel for Chesapeake and Ohio.....	56
\$23,000,000 in Miami Beach Developments.....	56
\$15,000,000 Pipe Line Contract Awarded.....	56
Tobacco Plant at Durham, N. C., Expanding.....	57
The Manganese Industry in 1929.....	57
Population's Drift to Small Towns and Cities Analyzed.....	61

SPECIAL DEPARTMENTS

Construction, New Industries and Contracts, 18 Pages Beginning on Page 64

Letters From Our Readers.....	58	New and Improved Equipment.....	63
Iron, Steel and Metal Market.....	59	Industrial News of Interest.....	81
Highways and Motor Transport.....	61	Trade Literature	81
Aviation, Airports and Airways.....	62	Financial News	86

Classified Reference for Buyers..... 105

Alphabetical Index to Advertisers..... 118

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Vol. XCVII No. 24
Weekly

BALTIMORE, JUNE 12, 1930

{ Single Copies, 20 Cents.
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Foreign Cement to Be Used on South Carolina Roads

A recent purchase of 1,000,000 barrels of foreign cement by the South Carolina Highways Commission is of far wider importance than the local criticism and discussion which it has aroused. The entire country may well be interested in the people's question, Why did you buy foreign cement? and in that part of Chairman C. E. Jones' answer which brings the tariff into consideration of the subject.

The purchase of any substantial amount of foreign products in preference to American products of the same kind is a matter of serious moment. Any purchase of foreign material when tremendous amounts of American material are close at hand and the factories making that material are not operating to capacity demands the presentation of the reasons for the indicated discrimination against American manufacturers.

In the South are a number of great cement plants, which in 1929 produced about 22,000,000 barrels, or approximately 13 per cent of the United States output. Prosperity for these plants and their communities spreads throughout the South, including South Carolina. Depression in the industry automatically reacts unfavorably on the South. A slightly lower foreign price may save a State money, but in the last analysis the cost will be greater in the loss of trade from Americans to whom the money otherwise would have gone.

These conditions, of course, are not peculiar to the cement industry alone, but cover industries in every line. There is no profit for the South in sending its money abroad. To do so is to swap the substance for the shadow. Every purchaser of foreign goods tends inevitably to lower the American standard of wages and the American standard of living. The South Carolina cement transaction is of more than local import. "Patronize Domestic Industries," is a principle applicable to every individual, to every town and community, up through the counties and the States and throughout the entire Nation.

"We are now imminently threatened with an import duty on Portland cement in the amount of 23 cents per barrel," Mr. Jones says.

The MANUFACTURERS RECORD has stood constantly for a protective tariff, recognizing that the prosperity of America depends upon the prosperity of its working people.

If in every instance where we can save money, we should buy from other countries whose products are made under pauperized labor conditions and at a scale of wages very much less than half the wages that are paid to our people, then unquestionably we may expect to see a condition brought about in this country that will undermine our present standard of living and in a large measure destroy the prosperity that has made America what it is today.

We deplore the attitude which prompts some Americans to take a step of this kind, which we regard as directly opposed to the best interests of America and her working people, who are the envy of all the earth.

The charge has been made that there was collusion among American producers to maintain a price. If that is true, surely there are other means of redress, other courses of action available to the people of South Carolina than to put this important contract into foreign hands which are eagerly seizing every chance to enter our markets and to undersell our manufacturers.

The following statement addressed to the MANUFACTURERS RECORD has been received from Chairman Jones of the South Carolina Highway Commission. We print it in full, because we want to give Chairman Jones and the Commission opportunity to show their reasons for the course they adopted; it reads as follows:

"In your inquiry to Governor Richardson the 3d inst. you indicated you intended to discuss 'the unwisdom from our (your) viewpoint of the purchase of a foreign product by the State of South Carolina in preference to other well known brands of American cement made in ample quantity and of approved quality in nearby Southern States.'

"On May 15 the South Carolina State Highway Department received bids for furnishing 1,000,000 barrels or more of Portland cement. The purchase was widely advertised and there was no lack of interest on the part of the American cement industry.

"The nine American cement manufacturers bidding quoted prices identical with prices freely quoted to dealers in South Carolina in single car lots of only 200 barrels. Based on ship-

ment from Birmingham, Ala., cement delivered at Charleston would yield the mill a net return of 87 cents per barrel; delivered at Columbia, \$1.34 per barrel; delivered at Spartanburg, \$1.50 per barrel.

"Can you justify their attempt to charge the State of South Carolina a higher price at the mill for cement that is going to be delivered at Spartanburg than for identically the same cement delivered at Charleston or Columbia? Can you justify their attempt to charge the State for 1,000,000 or more barrels of cement at identically the same price per barrel quoted to dealers in South Carolina in only carload lots? Can you defend their identical price structure, calling for identical prices at each delivery point in South Carolina, and truthfully say there is no combination or understanding amongst them?"

"The bid on foreign cement was exactly 13 cents per barrel less than the identical price quoted by the nine American cement mills which when applied to the 1,000,000 barrel purchase represents a saving of \$130,000. Personally and officially, we prefer American-made goods, but do not believe our preference should be indulged in at the expense of the taxpayers of South Carolina.

"Should American mills quote prices to meet existing foreign competition, their price for South Carolina delivery points would net the mills, basis Birmingham, \$1.25 per barrel, which is 25 cents per barrel more than the mills were quoting last fall, when there has been no change in prices of labor or other factors making up their per barrel costs. One dollar and twenty-five cents, net, per barrel basis, Birmingham, will show any mill a reasonable profit and is far above the average per barrel price of orders now on the books of a number of the mills and awaiting shipment.

"Should South Carolina be forced in your opinion to purchase cement in large quantities at the same price the ordinary customer pays in small quantities, when the large State purchase involves no sales costs and no credit risk whatever to the cement industry, and when it is admitted by the cement producers that more than 10 cents per barrel is required to cover sales costs? In your opinion, is the stabilizing effect of large orders, to be delivered over relatively long periods, worth nothing to the American cement industry? In your opinion, should South Carolina be called on to submit meekly and without a struggle to the united purpose on the part of the American cement industry to make her contribute heavily toward the liquidation of losses the American mills have sustained in the preceding years?"

"We earnestly want suggestions and advice from informed sources, such as the MANUFACTURERS RECORD, and I do not believe that you will be influenced by the fact that the cement industry and their connections furnish more than 80 per cent of your advertisements, so we are reliably informed, but on the contrary do believe you will render our State in the emergency your usual capable help."

We do not know the source from which Mr. Jones was "reliably informed" that 80 per cent of the MANUFACTURERS RECORD advertising emanates from the "cement industry and their connections," but if the other information in his statement is as incorrect as this, which is absolutely incorrect, we are not surprised that he has reached wrong conclusions.

The narrowness of the margin on which the American cement industry is being operated may explain in part the claim that the same price on one million barrels was quoted as on two hundred barrels.

Notwithstanding Chairman Jones' assertion about bids being the same and about the "saving" involved by placing abroad this important order for cement to be used on South Carolina's roads, we repeat it is a deplorable thing in view of the unemployment in this country and the dullness that exists in industries, among which cement is included, that any state should for a moment consider placing such a contract in foreign hands.

As one South Carolina business man has said "it would be better to throw the alleged saving of \$130,-

000 in the ocean" than to consider taking this needed production away from Americans at the present time.

If we are to open our markets to competition from abroad—a competition which is based on wages that would cause our people to starve then we may well bid farewell to America's scale of living, the comforts her working people enjoy, and descend to a parity with the economic policies of other lands which have, through the centuries, kept their producers in economic serfdom. We deny the right of any state to sacrifice a vital principle for a temporary "saving."

Governor Young's Sound Advice

CLOSE reading of an address by Governor R. A. Young, of the Federal Reserve Board, at Old Point Comfort, fails to disclose any reason why it should be considered "disturbing," as it has been described in some business circles. On the contrary, it should inspire confidence in business minds, and the encouragement which confidence promotes.

In comment on a newspaper interpretation that the address "warned bankers to prepare for periods of depression," Mr. Young writes to the MANUFACTURERS RECORD:

"You will observe that my warning covered periods of expansion and nothing was said that could possibly be construed that I was predicting a depression."

First congratulating American bankers on the fact that the strength and soundness of their financial structure had averted a panic at the time of the stock market collapse, Mr. Young urged them to use, as far as possible, preventive measures against similar disturbances in the future.

Chile Orders American Engines By American Telephone

THE intimacy of the United States with world trade and the marvels of American industry are emphasized by a telephone order from the director general of Chilean State Railways at Santiago to the Westinghouse Company, at New York, for four electric locomotives, with a value of half a million dollars.

Through the enterprise of an American telephone company, a customer at the other end of the continent is enabled to place a large order with a concern in the United States.

A Correction

The largest bottle-washing machinery manufacturing plant in the world is located at Bainbridge, Ga., and not Waynesboro, Ga., as was erroneously reported in the MANUFACTURERS RECORD of June 5 under the heading "Some Industries of the South Now Largest in the World."

An Economic Program For The South

STUART MCGREGOR, editor of the Texas Almanac, has outlined in the Dallas Morning News, "An Economic Program for Texas," later reprinted in a recent issue of the Texas Monthly. So fittingly does this interpretation of the situation in Texas apply to the entire South that the MANUFACTURERS RECORD summarizes a few of Mr. McGregor's suggestions, interpolating the word "South" wherever the word "Texas" appears. The article is confined to economic aspects only and, as Mr. McGregor says, "there is much difference of opinion as to what an economic program should be, and many amendments could be offered. Still, most 'Southerners' will agree that if intelligent and consistent effort could be applied to the following problems, so that a fair start could be made by 1940, the 'South' will have had its decade of greatest progress."

The condition of agriculture is first presented on his list, and the difficulties of agriculture are a problem common to the entire country. Agriculture is of the greatest importance in "the South" and this section wants a profitable agriculture in all lines of growing and in the livestock industry. Cotton lands should to an extent be diverted to other crops, and if the market for other crops becomes flooded, Mr. McGregor's suggestion is to let the land lie idle. Build up manufacturing and commerce, he says, to take care of those who cannot make a living on the farms and the idle land will soon be needed and will be better adapted to the need for having lain fallow.

"The South" needs to develop manufacturing or it will stand still economically; and it may be added that industrial expansion points the quickest way to the solution of farm problems, and would be the greatest stimulus to development of minor mineral and other resources. Several Southern states, notably North Carolina, have made a good start in this direction which illustrates the possibilities that lie in the greater development of manufacturing. The primary need is not the smokestacks-at-any-cost kind of development, but intelligent effort to obtain modern and adequately financed and properly placed enterprises that will lend aid to healthful economic and civic progress. "The South's" capital should go as readily into good industrial securities as it now goes into bank and insurance stocks.

As to foreign commerce, especial attention should be given to Latin-American trade. The proceedings of the recent Southwest Foreign Trade Convention held at Houston clearly demonstrated the South's advantages in this respect.

"The South" has passed the day when financing consisted of long-time loans on real estate and short-time loans to tide farmers and merchants over from season to season. Some bankers who have given generous and constructive effort to the farmers' problems have fallen behind the times in their own business. No country or state ever becomes greater industrially or commercially than its bankers.

In railroad transportation "the South" has had a

great development. It has the best climate in the country for aviation and this new mode of transportation must be pushed. It must have more and better highways and its ports should be kept up-to-date and inland waterways developed to their fullest economic value.

While these suggestions are keeping away from governmental affairs, it must be said that because of the effect upon economic development "the South" needs an equitable tax policy that will encourage development.

Growing cities of the South should give greater heed to plans for future development and thus avoid wasteful bonded indebtedness.

In conclusion, it is suggested that "the South's" greatest problem is its bigness and the attendant diversity of economic interest which leads naturally to internal conflict, and its greatest asset is this same bigness and diversity which makes it potentially a real empire with the possibilities of working out very largely its own destiny.

Likewise, stressing essential elements that can be applied to the whole South, the Texas Monthly editorially comments upon Mr. McGregor's economic program for Texas in the following:

"Certainly there is need of a much wider appreciation of the extent of the stake which the farmer has in industrial development. The idea that development of the cities and towns depended very largely on agriculture is an old story in Texas. It is a correct idea only to the limited extent that commerce in a country such as Texas has been hitherto does need a prosperous agriculture. It is true of the country as a whole to the extent that farmers constitute the customers of the manufacturers. But we have reached a point in Texas where further agricultural development, in the sense of more farmers, is not of primary economic importance to us, either in the city or the country. A more efficient agriculture, in the sense of more agricultural wealth with fewer and more prosperous farmers, is needed now. But an even greater need is industrial development in the cities and towns, not merely in order to raise the level of economic life in the cities and towns, but in order also to create more favorable conditions for development of a more efficient agriculture."

Henry Ford Sets Wise Example To Every Multi-Millionaire

DOWN in the mountain region of Georgia there is a very wonderful institution known as the Berry Schools, established years ago by Miss Martha Berry. By her unceasing work she has developed an institution that has commanded the highest praise of such great political leaders as Roosevelt and business men like Henry Ford. In addition to the gift of a million dollars in recent years to the Berry Schools, announcement was made not long since that Mr. Ford is contributing \$250,000 for the building of a new dormitory.

It is good to see men of great wealth like Ford turning some of their millions into the advancement of educational facilities of the South. Many wealthy men have poured millions and tens of millions into the endowment of great universities, but an equal amount contributed to development of the smaller

colleges in the South would be of incalculable value not only in helping to broaden the lives of individual boys and girls but in shaping the destiny of this country through the influences thus created.

Nitrate Industry's Growth Changes The Policies of Nations

A RECENT report that world nitrate interests are planning a \$400,000,000 cartel to control not only the natural nitrates but the synthetic product as well, recalls the struggle that has been waged in this country, ever since the World War, between advocates of government operation of nitrate and fertilizer plants at Muscle Shoals and opponents of governmental entry into the fertilizer industry.

At the close of the war there was no manufacture of synthetic nitrates in this country, or none worth mention. By 1926 eight companies were in the field, and their combined capacity was only 30,000 tons of fixed nitrogen per year. In 1926 the discussion still raged around the issue of national defense. On the one hand were those who demanded government operation of the Muscle Shoals nitrate plants "to give the farmers cheap fertilizers"; while, on the other, passionate nationalists demanded that the government operate them to guarantee the necessary supply of nitrates in time of war.

Opposition to this plan came from many quarters. Chemists and engineers intimately acquainted with the subject asserted that cheap power was not an important factor in the manufacture of nitrates; that the cyanamid plant at Muscle Shoals was obsolescent, and that there were better locations for plants designed to capture nitrogen from the air.

On June 25, 1925, the MANUFACTURERS RECORD published an article outlining the position that if the government should undertake to guarantee a sufficient supply of nitrates, it would have to go into the business on a huge scale, in which case private capital, unable to compete with tax-subsidized plants, would stay out of the field and the government would have to do it all; whereas, if the government stayed out of the field, private enterprise would rapidly develop an industry capable of supplying our needs.

The first half of that argument has never been demonstrated, since the government stayed out of the field; but the second half of it—that private industry would meet all needs—is being proved. In 1926, one year after that article was written, our total combined capacity as stated was only 30,000 tons of fixed nitrogen annually. In 1929 it was roughly 135,000 tons, or $4\frac{1}{2}$ times as much. But that is not all. Two of the larger plants of 1926 have dropped out. Two others in 1926 were du Pont and Allied Chemical and Dye. Du Pont's capacity has been multiplied by nearly 6, and is about 35,000 tons, while Allied Chemical and Dye's capacity has been multiplied by nearly 14 and is therefore about 85,000 tons. And the great Hopewell plant of Allied Chemical and Dye is now

being doubled, so that by the end of 1930 our total capacity will be above 200,000 tons.

These figures refer only to plants making nitrates as a main product by capture of the nitrogen from the air. Parallel with this development has come a large increase in our production of nitrates as a by-product. When coal is reduced to coke, the gas driven off contains ammonia, and the ammonia is separated and converted into a nitrogenous material suitable for fertilizer. In 1919 our production of by-product ammonia was equivalent to 86,960 tons of nitrogen. In 1925 it was 123,600 tons, and in 1929 it was 187,600 tons, or more than double the output at the beginning of the campaign for national operation of Muscle Shoals as a necessity of national defense.

Two nitrate plants were built by the Government at Muscle Shoals, one designed to use the cyanamid process, the other designed for the more modern synthetic ammonia process. The former was obsolescent in 1925, and certainly has not become less so. The latter was fairly modern at that time, but is probably approaching obsolescence in the light of later developments. At any rate, neither du Pont nor the Allied Chemical and Dye Corporation selected locations close to hydro-electric stations for their nitrate plants; for cheap hydro-electric power is not necessary in the synthetic process, and that is the crux of the whole problem.

In 1919, when the fight over the national defense and cheap fertilizer issues was just getting under way, sulphate of ammonia sold at \$97.50 per ton. It was estimated that if necessary changes were made in the Muscle Shoals synthetic ammonia plant to make it conform with ideas developed since its construction began, sulphate of ammonia could be produced there for about \$48 per ton. Recently the price of sulphate of ammonia has varied from \$42 to \$38 per ton, a development which explains the almost total evaporation of the talk about cheap fertilizer from Muscle Shoals.

In fact, all fertilizer prices have declined. In 1919 they reached the skyrocket peak of more than 250 per cent of the 1910-14 average, and during 1920, 1921 and 1922 they came down without benefit of a parachute. They are now, according to the National Fertilizer Association, about 9 or 10 per cent above the 1910-14 average. By comparison, all farm products are 31 per cent above the pre-war level, while all other commodities are 39 per cent above.

Still rages the Battle of Muscle Shoals. The socialistic shock troops still lead the fray, but the friends of the farmers are no longer their allies, and their battle cry has changed from "cheap fertilizer" to "block the power trust." With that determined little band the objective is the same—to use Muscle Shoals as an entering wedge to socialization of the whole power industry.

Thus the development of the synthetic nitrate industry affects the policies of nations, driving Chile to a complete revision of its fiscal system based on great natural nitrate deposits, and blocking for a time at least the efforts to socialize our power industry.

Overproduction in Cotton Manufacturing Nearing an End

Some Observations on the State of the Cotton Textile Industry

By

LEAVELLE McCAMPBELL,
Vice-President of the Association of
Cotton Textile Merchants of
New York City

WHEN will the ills of overproduction that beset cotton textiles have run their course? When will the supply of cotton cloth be balanced with demand?

A sound answer to these questions supported by such facts and figures as are available should give heart to every textile executive, courage to the bankers who have stood so staunchly by an ailing industry and should be of more than passing interest to the holders of textile securities.

This industry is basic and cannot die; people must have clothes; the makers of a thousand things must have cloth and inasmuch as no industry can permanently exist without profitable operation by a majority of its members it follows that recovery is certain. Even the most pessimistic must also agree that every increase in cloth consumption and every decrease in the equipment with which cotton mills serve their markets must hasten the date of this recovery.

Fortunately we have at hand rather complete statistics. With regard to consumption these figures are most encouraging. From the standpoint of equipment they point clearly to the conclusion that we are making substantial progress towards normal and healthy conditions.

Production versus Shipments

For several years the Association of Cotton Textile Merchants has collected and published figures on the production of standard constructions of cloth. These record about forty per cent of the total cloth made, and since January, 1928, are from substantially the same groups of mills. The totals presented cover all of 1928, all of 1929 and the first four months of 1930. Potential production is determined by assuming that the greatest output in a single month was maintained throughout the whole 28 month period under review.

1928, 1929 AND 4 MONTHS OF 1930

	Yards
Potential production was.....	9,064,801,000
Actual production was.....	8,199,506,000
Actual shipments were.....	8,091,271,000

Had these mills run at peak production they would have over-produced their market to the extent of 12.29 per cent. They actually did over-produce by the narrow margin of 1.34 per cent. The

Mr. McCampbell's analysis reveals that deterioration and demolition of available textile equipment has been proceeding much more rapidly than new building. During the past four years available machinery has been reduced at the net rate of 865,052 spindles a year, or 2.37 per cent. This is regarded as a major development, especially since new building is totally inadequate to offset this rapid scrapping. Since 1925 average annual installation—including new building, additions and replacements—has been but 326,688 spindles. It is therefore manifest that increased consumption and decreased equipment are subtracting from the capacity of the industry to overproduce at a rate exceeding four per cent of the total production.

penalty exacted in the shape of price concessions for this infraction of economic law has been out of all proportion to anything gained by such lower costs as were thus obtained. Had these units under-produced by exactly the same margin buyers would today be on their knees pleading for deliveries and sales forces could be cut in two.

Domestic Consumption

Formerly every five years and lately every two years the Bureau of the Census has collected data on the production of cotton textiles. To determine domestic consumption this has been corrected by adding imports and deducting

Year	Cloth Consumed	Raw Cotton Consumed
	Yards	Pounds
1899	4,280,959,417	1,793,000,000
1904	4,720,074,364	1,888,000,000
1909	5,960,842,706	2,505,068,682
1914	6,549,334,805	2,666,001,024
1919	5,684,106,139	2,756,117,408
1921	6,258,631,379	2,338,697,216
1923	8,018,060,489	3,186,391,978
1925	7,307,500,310	2,960,453,326
1927	8,478,396,163	3,436,621,630
1929		3,389,529,070

exports. Figures for 1929 unfortunately will not be available until October. This table paralleled and corroborated by the record of raw cotton consumption during the same years shows America's ever increasing demand for cotton cloth.

In 1919 the effects of the Great War brought about a decline and in 1925 high-priced cotton again caused a drop. Perhaps short skirts and the advent of rayon helped along these recessions but in spite of an occasional ebb the tide of consumption steadily rises. The average gain for each of the 28 years covered has been 153,122,740 yards.

During this time our population has grown from 76,129,000 in 1899 to 121,600,000 in 1929. Every single year has shown an increase. This is as it should be. Furthermore if we can judge by the record of the past decade it is likely that in this way Providence will continue to furnish us with 1,576,400 additional customers every year, and the babies are customers for cotton cloth even before they get here.

Per Capita Consumption

The most interesting thing about these statistics is the relation between population and cloth consumption. In comparing the two we find that in 1899 the average American consumed 57 yards and that by 1927 this per capita figure had risen to 71 yards. This indicates that we are likely not only to have more customers but bigger and better customers.

In the last analysis goods bought are goods consumed although for any single year this is not quite accurate. For instance, prices in 1927 were low and there was a marked tendency to buy ahead of requirements. Possibly it would be fairer to average the census years. These show per capita consumption in 1923 as 72 yards and in 1925 as 64 yards, which combined with the 1927 figure of 71 yards gives a six year average of 69 yards. Either of these methods of determining present per capita consumption effectively silences the contention that changes in fashion and the substitution of artificial fibres are responsible for textile troubles.

Spindles in Place

Now let us consider the equipment that produces the huge yardage we have

been discussing. Practically all cotton mill statistics are compiled in terms of spindles. The Bureau of the Census has gathered these figures regularly for a long while. They are comprehensive and authentic.

The total combined spindleage of American cotton mills reached its peak in December, 1924, when the industry could show 37,939,772 spindles in place. During the following year 67,836 of these were taken from position. Since then the decline in this list of available machinery has been continuous and impressive as is shown in the following table:

Year	Spindles	Decrease in Spindles
Dec. 1924	37,939,772	507,206
Dec. 1927	36,465,976	808,754
Dec. 1928	35,267,086	1,198,890
Dec. 1929	34,585,304	681,782
Apr. 1930	34,195,464	389,840
Total		3,676,472

Therefore for the past four and a third years we have torn down our plant at the net rate of 865,052 spindles or 2.37 per cent a year, and the current rate at which we are carrying on this program exceeds this startling figure.

New Spindles

As a matter of fact, demolition has proceeded at even a greater rate than thus indicated, for "spindles in place" also includes those that are built each year. Figures on these new spindles are not published but the manufacturers of spinning equipment have very graciously furnished the following five year record of all they have installed in American mills including new building, additions and replacements.

Year	Installed Spindles
1925	343,292
1926	217,264
1927	496,192
1928	253,912
1929	320,784
Average	326,688

This indicates that about 1,200,000 spindles are really finding their way to the scrap heap annually. If we divide this figure into the number of spindles now in place it establishes in a rather practical way that the business life of an American spindle is almost exactly 30 years. There was a time when the manufacturer could twist a profit out of a spindle for a longer term but the chances are that this period of usefulness will hereafter be shortened rather than lengthened.

If we take the current rate of 326,688 new spindles a year and assume that not a single spindle is added to the number we have it will require something over a hundred years to reconstruct our present plant. Surely this is a most inadequate program of renewal and one which cannot continue without greatly accelerating the passing of machinery now in place.

Active Spindles

So much for the plant. Let us see how much of it has been and is actually in operation. Of this the Bureau of the Census also furnishes quite a complete record.

In 1900 there were 19,472,232 active spindles. By 1910 there were 28,266,862 or nearly 9,000,000 more. That decade was the heyday of mill building and mills constructed during that period still form the backbone of cotton textile production. We have seen however that the practical business life of a spindle is 30 years. Therefore this large section of equipment is nearing the end of its usefulness and must soon become ineffective from a competitive standpoint. This is another factor pointing to a more rapid decrease in spindles in place. After 1909 building continued at a slower rate, but 1923 saw 36,260,001 spindles in operation. That was the peak and really marked the beginning of over-production. Since then, for seven straight years there has been a decline. The record runs as follows:

Year	Operating Spindles	Decrease in Spindles
1924	35,849,338	410,963
1925	35,032,246	817,092
1926	34,750,266	281,980
1927	34,400,910	349,356
1928	33,569,792	840,118
1929	32,417,036	1,152,756

It should be understood that the Bureau counts as "active" every spindle that ran at any time during each year. In 1929 the greatest number that ran in any one month was 30,924,184, the average per month was 30,404,696. The difference of 2,012,340 between this average figure and that for 1929 used in the table may be considered as potential productive capacity likely, at any propitious time, to come back into operation. The difference between the 32,417,036 "active in 1929" and the 34,585,304 previously given as "in place at the close of 1929" amounting to 2,168,268 may be fairly described as idle spindles. Very few of these will ever run again.

Survival of the Fittest

It is not a pleasant thing to contemplate unemployment, the passing of fine old names, the destruction of values, but "Survival of the Fittest" is a law that knows no mercy. Any reasonable analysis of our industry shows beyond question that its forces are at work. Slowly, surely they will bring about the balance of supply and demand.

In the meantime, it behooves every mill executive and every selling agent to keep his sails trimmed to the prevailing winds, to keep his production better balanced with current demand, to keep his inventory down to market requirements, to discourage the abominable practice of producing goods only to move them through price concession and

finally, to acquaint himself with every fact and figure that will help toward sounder merchandising. Curtailment by attrition is a long, long trail. Progress over it is difficult and demoralizing even to those who are fitted to survive.

From the combined aspects of increasing consumption and decreasing equipment we are eating each year into our capacity to over-produce at a rate exceeding four per cent of the total production.

If consumption and equipment were the only factors to be considered it would be easy to say *when* and the actual day of deliverance could be accurately foretold. Unfortunately there are two others, speed and running time.

Of these speed may be dismissed as relatively unimportant. It is true that the modern spindles turn faster than the old, but the percentage of new spinning being introduced is less than one per cent and its excess speed distributed to cover the whole can be only a fraction of that.

Increased Running Time

The increase in average running time, brought about chiefly by the change from daytime operation to day and night operation, is however a major factor and looms large upon the horizon. There are those who feel that the whole solution of the problem of over-production lies in checking and possibly stopping this development entirely. It is attacked on moral grounds. Legislation to prohibit the employment of women and minors at night is threatened. But the hard-boiled fact remains that the mill running day and night can produce cotton cloth at lower cost than the mill running daytime only. As margins between cotton and cloth have narrowed, the incentive to pursue this policy has increased and additional mills have adopted it.

Since the cotton fiscal year ending July 31, 1922, the Bureau of the Census has collected this data showing the aggregate running time in terms of spindle hours.

Year	Operating Spindle Hours
1922	89,308,613,876
1923	101,931,101,448
1924	84,359,693,047
1925	91,054,615,317
1926	93,941,080,761
1927	102,605,403,478
1928	96,451,049,937
1929	99,604,009,191

The year 1922 reflects the great New England strike which caused the loss of some four billion spindle hours, followed by the effort in 1923 to make up this lost time.

In 1924 distribution was badly handicapped by the fact that May and July cotton oversold the fall options as much as four to six cents a pound. This phenomenon in lesser degree we have

with us again. In 1924 it resulted from lack of carry over, a natural cause. Today it is brought about artificially by the stubborn refusal of a Government agency to recognize the economic fact that cotton can find its way to market only through the doors of a cotton mill. If the Federal Farm Board will review the 1924 cotton consumption figures perhaps they will realize that when they play havoc with textile distribution they injure the very farmers it is their avowed purpose to protect.

In 1927 low priced and advancing cotton brought increased distribution and the dip in 1928 was an echo of the New Bedford strike when some three billion spindle hours were written out.

These figures on spindle hours offer a method of measuring the extent of double shift operation. By comparing them with the number of active spindles we learn that the running time in hours per active spindle in recent years has been as follows:

Year	Running Time Per Spindle
1922	2501 hours
1923	2811 hours
1924	2353 hours
1925	2504 hours
1926	2703 hours
1927	2892 hours
1928	2873 hours
1929	3073 hours

Since the Cotton-Textile Institute was founded, voluntary curtailment has been preached from the house-tops. In principle every mill executive accepts this doctrine. In practice they "let George do it." The record is before you. Possibly like bad boys they run for the sole reason that the teacher says not to. If the Institute pleaded with them to lengthen their running time maybe they would as promptly shorten it. This stubborn streak in human nature frequently crops out. President Hoover tells us that the depression is over and hundreds promptly dump their stocks. Perhaps if we quit talking about the evils of night running there will be less of it.

Whether curtailment be voluntary or involuntary there is ample evidence that over-production has run its course. The ability of the industry to increase its running time by 200 working hours, nearly a solid month, in 1929 was amazing, but even so the total failed to reach either that of 1927 or that of 1923. It is unlikely that we ever again shall see such a spurt. If not, stabilization has arrived. One hundred billion spindle hours is a dead-line that probably will not again be crossed until our house is in order and the sale of cotton cloth rewards those who make it with a reasonable profit.

Just how much longer the practice of increasing running time will continue is a difficult question to answer. Most well informed members of our industry

are agreed that it is nearing its zenith, and that fewer and fewer mills will take part in such a program. The discussion about it has raged so fiercely that the average mill executive has taken a position for it and put his mill on night shift or declared himself against it, and is not likely to do the thing he has decried. Public opinion, the prospect of prohibitive legislation and the cost of housing the night shift may deter those who are on the fence.

The Lines Must Cross

It is not conceivable that we can take care of increasing consumption and at the same time progressively destroy the equipment with which we make our goods. Somewhere these lines must cross. Sometime there must come an end. When it does there is likely to be a textile boom greater than any we have known, for it will find us with a plant gone beyond the possibility of quick rehabilitation.

Economic movements follow the course of a pendulum. The measure by which they have gone too far in one direction is likely to closely approximate that by which they will go too far in the opposite direction.

Will we quickly add spindles, build new mills and recreate the conditions from which we shall have escaped? Possibly so, but it will be a slow process, for who is going to invest until we can show capital a record of adequate return for several succeeding years? Who is going to build new mills when sound existing units can be bought at Court House values?

There must be this logical sequence; first, a return to profitable operation; second, the maintenance of earnings for some reasonable period; third, the recovery of cotton mill securities to a level based on something approaching replacement costs. These must precede any extensive building program.

\$2,500,000 St. Louis Hotel

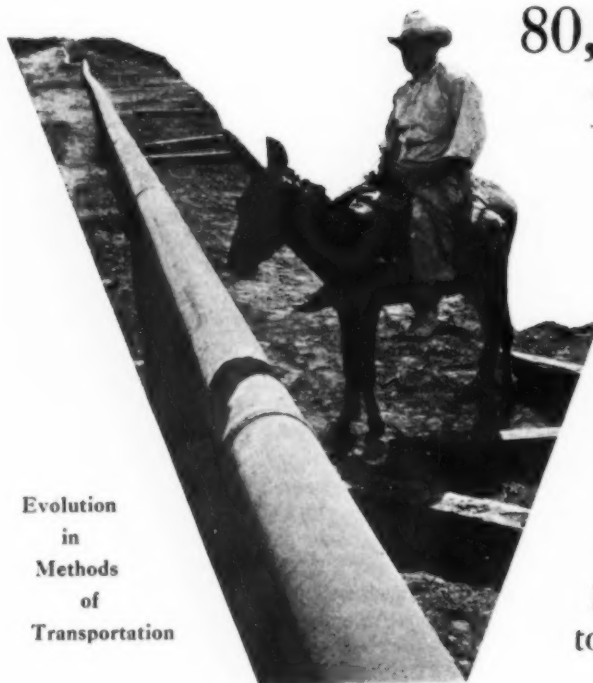
Representing a cost of \$2,500,000, the new Hotel Lennox in St. Louis, Mo.,



Hotel Lennox, St. Louis

constitutes the third St. Louis hotel in the Heiss system, owned and operated by the Heiss Hotel Company, Charles Heiss, president. The others are the Mayfair and the Kings-Way. The Hotel Lennox is 27 stories and contains 400 guest rooms, has a mechanically cooled coffee shop and barber shop as well as dining room, and is equipped throughout with hand telephone instruments. Plumbing and bath room fixtures are chromium plated. Preston J. Bradshaw, St. Louis, was the architect and William F. Victor is the manager. The building is of buff brick and stone trim, with no ornamentation above the second floor until the top story is reached. It was designed primarily as a commercial hotel and on the third floor are 31 sample rooms. Every guest room is equipped with both tub and shower bath, running ice water and other modern conveniences. Contractors, all of St. Louis except where otherwise designated, include:

Marble work—Bradbury Marble Co.
Painting—Jas. S. Dowling & Co.
Fans—Emerson Electric Manufacturing Co.
Millwork—Fox Brothers Manufacturing Co.
Foundation—Fruin-Colnon Contracting Co.
Tile—Hornet Mantel & Tile Co.
Furniture—Lammert Furniture Co.
Plumbing—J. A. McBride Mechanical Equipment Co.
In-a-Dor beds—Murphy Door Bed Co.
Carpentry—J. Harry Payne Contracting Co.
Plastering—John W. Rowan Plastering Co.
Lamps—Henry Schaefer Wrecking Co.
Hardware—Schroeder Bros. Hardware Co.
Terra Cotta—Winkle Terra Cotta Co.
Beds—Simmons Co.
Mail chute—Cutler Mail Chute Co., Rochester, N. Y.
Hauling—E. F. David House Moving Co.
Watrous valves—Imperial Brass Manufacturing Co., Chicago.



Evolution
in
Methods
of
Transportation

80,000-Mile Natural Gas Transportation System Shows Steady Expansion

Significant Developments in Natural Gas Transmission—Availability of Product in Industrial Centers May Stimulate Manufacture of Chemicals — Gasoline Extraction from Natural Gas of Growing Importance—Changing Oil Lines Into Gas Lines a Recent Innovation

WHILE the total mileage of our natural gas pipe system is steadily increasing, its control, as the result of mergers, is passing into fewer hands, according to Dr. G. R. Hopkins of the United States Bureau of Mines, in a recent report to the American Chemical Society. The aggregate mileage of the country's natural gas pipe line system amounts to about 40,000 miles for trunk lines and perhaps an equal amount for gathering lines. This mileage is spread over 25 states.

Greatest concentration of lines occurs in Ohio, Pennsylvania and West Virginia;

that is, in the general vicinity of Pittsburgh. The majority of the longest lines originate in the Southwest; Texas leads with over 6000 miles of main lines.

Development of long-range transportation of natural gas for conversion into various chemicals at industrial centers is foreseen by Dr. Hopkins, who declares that this would reduce transportation costs to the chemical manufacturer, and greatly benefit the natural gas distributor by creating an additional

market and allowing operations to continue the year round, with a resultant increase in ratio of demand to peak load.

Natural gas is usually found associated with or close to oil deposits, and it is thought that both have been formed under much the same conditions. However, large fields have been found unassociated with oil; for example, many unsuccessful attempts have been made

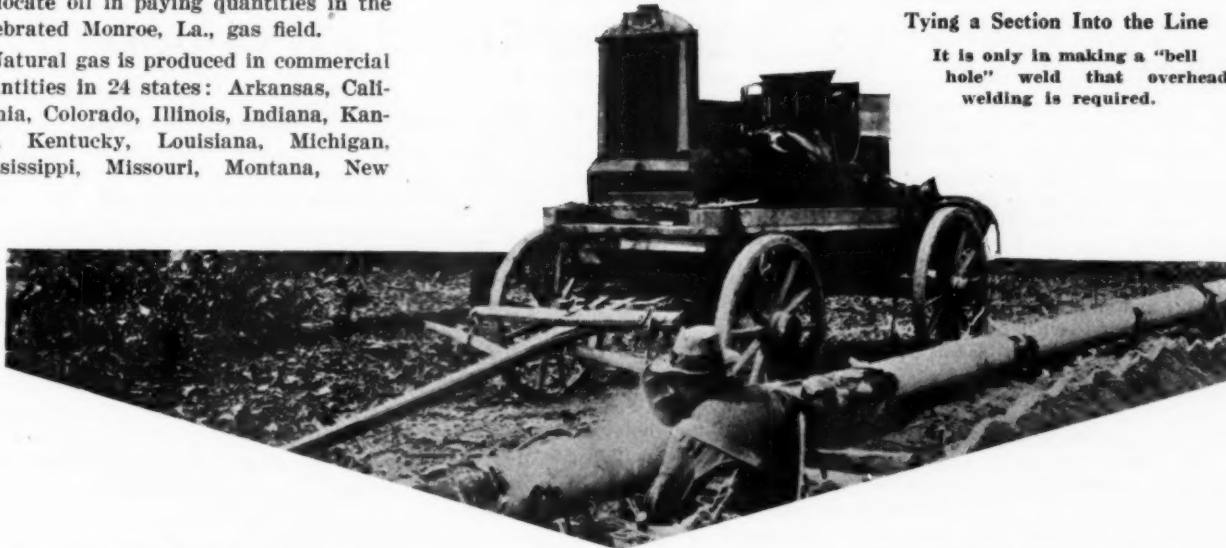


A Tarpaulin Forms the Windbreak for Making a "Firing Line" Weld on a Windy Day

Rollers under the pipe facilitate turning the section during the welding process. A Lincoln Electric Co. portable welding machine is being used on this job.

to locate oil in paying quantities in the celebrated Monroe, La., gas field.

Natural gas is produced in commercial quantities in 24 states: Arkansas, California, Colorado, Illinois, Indiana, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Montana, New



Tying a Section Into the Line

It is only in making a "bell hole" weld that overhead welding is required.

Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Utah, West Virginia and Wyoming. Total production in 1928, the latest year for which official figures are available, amounted to 1,568,139,000,000 cubic feet, of which the three leading producing states, Oklahoma, Texas and California, produced 320,861,000,000; 301,990,000,000 and 246,215,000,000 cubic feet respectively. These figures cover only marketed output, they do not include gas which has been allowed to dissipate into the air.

Of the great number of fields in which natural gas is produced many have several producing sands or horizons. Most important fields in the United States are: Panhandle field, located in Hutchinson, Carson, Gray, Wheeler, Moore, and Potter counties, Texas, and the Monroe field in Morehouse, Union and Ouachita parishes, Louisiana.

The Panhandle is said to contain slightly over 1,000,000 acres of gas territory in which wells of over 10,000,000 cubic feet per day may be drilled. Up to a short time ago only slightly over 100 wells had been drilled, but these had a total daily open flow of over three billion cubic feet. The amount of gas recoverable in the Panhandle has been computed at between 4000 and 8000 billion cubic feet, which at the present rate of withdrawals estimated at 250,000,000 cubic feet per day, should last for 45 to 90 years.

Total amount of recoverable gas in the Monroe field has been estimated at about 2200 billion cubic feet, that of the nearby Richland field at 1500 billion cubic feet. At present rate of withdrawals from both fields, about 600,000,000 cubic feet per day, the total of 3700 billion cubic feet should last for 17 years, it is estimated.

Corrosion is regarded as a serious problem in the industry, the loss for oil and gas pipe lines being computed at more than \$100,000,000 annually.

Domestic Consumption Increases

THE NUMBER OF DOMESTIC consumers of natural gas in 1928 amounted to 4,366,400, an increase of ten per cent over 1927. This figure represents the number of meters in service; hence there are probably several times as many people using natural gas. Cities and towns served in Texas alone amounted to nearly 500 at the end of 1929 as compared with about 82 at the close of 1926.

Natural gas, Dr. Hopkins says, performs the function of raising much of our crude petroleum to the surface, but its real utilization begins when it passes into man's possession and is used as a

formerly called natural gas gasoline, in 1928 amounted to 1,814,034,000 gallons valued at \$138,944,000. Nearly all the natural gasoline production is used at petroleum refineries for blending purposes and eventually comprises about 10 per cent of the total gasoline consumed.

Outlines Reasons for Popularity of Gas as Fuel

BECAUSE OF ITS CLEANLINESS, convenience in use, and heating qualities, natural gas will supplant coal and wood in cooking and water heating regardless of price, Dr. Hopkins declares. Further:

"It will replace coal, sometimes oil, in house heating if it can be supplied at a price, based on heat units, that is not far above that prevailing for those two fuels.

"It will replace coal in certain industries where absolute heat control is essential, but it will not supplant coal, particularly powdered coal, in most industries unless the price is on a 'dump load' basis.

"This explains why the cost of gas to domestic consumers may be one dollar per thousand cubic feet as against twenty cents or less for industrial consumption. Inasmuch as the domestic business constitutes but 20 per cent of our total natural gas consumption, it is usually necessary that any contemplated major pipe line project be able to supply gas for industrial users at a cost below that of competitive fuels. This is why natural gas engineers devote the major portion of their attention to prospective industrial consumers, why nearly all major lines terminate in a large industrial city, and also why the majority of the major enterprises have at least one large industrial user signed to a long-term contract before actual construction is started.

"At one time natural gas was considered to be inexhaustible and was so cheap that fires once started were never turned off. However, it soon became evident that the supply was not unlimited and rate structures made their appearance. These became increasingly complex.

"Average price paid by domestic con-



Type of Expansion Joint Used.

This also illustrates completely arc-welded joints.

source of natural gasoline, as a fuel, as the raw material in production of carbon black, hellum, solid carbon dioxide, and for various chemicals. Of these, its use as a fuel is the most important.

Gasoline Extracted From Natural Gas

DURING 1928, 1,473,434,000,000 cubic feet of natural gas or the equivalent of 94 per cent of the total output, was treated for recovery of natural gasoline. The remaining 6 per cent was mainly "dry" gas, too low in gasoline content to justify extraction and delivered directly from wells into distributing systems.

Total production of natural gasoline,

sumers has increased slowly but steadily for a number of years, a reflection of the increased cost of production and transportation. The average price paid by domestic consumers in 1928 was 62 cents per thousand cubic feet; the range was between 33 cents, the average for West Virginia, to \$1.50 for Michigan.

"The low figure of 33 cents does not represent the lowest rates charged, for in some cases the fight for franchises between rival companies has resulted in prices as low as 10 cents per thousand cubic feet. The average price paid by industrial consumers in 1928 was 23.2 cents as compared with 22 cents the previous year and 21.3 cents ten years ago.

"Rapid growth in natural gas distribution facilities in recent years and comparative absence of failures in the industry have had a tendency to instill a feeling of infallibility in the public mind and have inspired an unusual number of proposed lines.

"Some pipe line projects now contemplated appear economically unsound because reserves have been overestimated, superiority of natural gas over coal and oil has been overrated, assumption has been made that all domestic business could be secured, domestic consumption data based on northern cities have been applied to the South and West, 'unaccounted for' gas has been underestimated.

"As to domestic business, it may be cited that a considerable number of people rent their homes and do not have the say as to the piping of gas into them, also that the cost of a gas stove and the reluctance to make a change often outweigh any potential advantage that might be secured by conversion to natural gas."

An interesting development in natural gas transmission, Dr. Hopkins states, has been the conversion of crude oil lines into gas lines. This practice was

recently brought to public attention through acquisition by the Columbia Gas and Electric Corporation of two oil lines, one leading from Olean to a point nearer New York City, the other from Pennsylvania-West Virginia state line to Millway near Philadelphia. The Columbia Corporation is reported to be putting these lines into operating condition, which if true will place natural gas on the Atlantic seaboard for the first time.

Public Interest Manifested

AT THE PRESENT TIME the natural gas industry is one of those riding the crest of popular interest and favor, Dr. Hopkins concludes. "The chief cause of this sudden rise in popular esteem lies not in its steady growth over a period of more than 100 years, but in recent completion of a number of natural gas lines of large diameter and several hundred miles in length. These have appealed to the imagination and have given rise to many conjectures as to the end of this development. Five years ago the completion of a line more than 100 miles in length was looked upon as an outstanding achievement, but recently several lines nearly 500 miles long have been completed, and one of 900 miles, from the Panhandle to Chicago, is being seriously proposed.

"This sudden development in the technique of gas transmission has been brought about largely through discovery of new sources of supply and new uses at a time when necessary capital and engineering ability were available to build these lines."

CONTRACT FOR \$1,600,000 COAL PIER

Chesapeake and Ohio Also Plans \$1,500,000 Merchandise Pier

Newport News, Va.—The Chesapeake & Ohio Lines, Richmond, Va., have awarded contract to the W. Horace Williams Co., New Orleans, La., for constructing a coal pier here estimated to cost more than \$1,600,000. This is one of the biggest projects provided for in the last annual budget of the Chesapeake & Ohio and will be located near Little Boat Harbor. It will be 1000 feet long, 70 feet wide, to consist of a concrete dock supported on concrete piles. With machinery installed, it will be capable of loading coal on any ship now in ocean trade, it is said, economically and with a minimum amount of coal breakage. A 35-foot channel will be dredged to deep water and back of the pier there will be spacious supporting yards. Work will begin at once and is expected to be completed within 11 months. This contract does not include machinery. The railroad also plans a \$1,500,000 merchandise pier here but has taken no action as yet.

Vitamine Products to be Manufactured at Orlando

Orlando, Fla.—An industry that may mean much to fruit and vegetable growers of Florida has been started here by the Vitamine Company in the manufacture of Vitabar, a blend of tropical fruits and vegetables with chocolate coating. More than \$100,000 worth of machinery has been installed. The factory, when completed, is expected to employ from 500 to 700 people, operating the year round and consuming from five to seven carloads of oranges daily, in addition to other fruits. The company's research department plans to develop methods for utilizing by-products. It is understood that fruit juices and orange oil are ready for the market. Walter D. Randall, Winter Park, Fla., is president of the company and Dr. E. R. Alexander, vice-president.

Apartments for a Georgia Resort

Incorporating novel architectural features, the new \$300,000 Cloister Apartments were recently completed at Sea Island Beach, Saint Simons Island, Ga., for the Sea Island Company, augmenting facilities of the Cloister Hotel at that resort. The building overlooks gardens of the hotel. Furnishings are designed in early Spanish-American.

Francis L. Abreu, Brunswick, Ga., was architect for the building, which will be operated by the Georgia Coastal Hotel Company in connection with the Cloister Hotel. The H. B. Nelson Construction Company, Augusta, was general contractor. The Lindsey & Morgan Company, Savannah, supplied the furnishings.



Cloister Apartments, Saint Simons Island, Georgia

\$1,450,000 Fort Worth Bonds Sold

Fort Worth, Tex.—A bond issue of \$1,450,000, to bear an interest rate of 4½ per cent, has been sold by the City Council to the Chatham-Phenix Corp., New York, and Stranahan, Harris & Oatis, Inc., Toledo, Ohio, at par, accrued interest and premium of \$4975. The bonds are divided as follows: Highway, \$300,000; fire protection, \$250,000; street improvements, \$650,000, and airport, \$250,000.

Helping Farmers to Become Better Credit Risks

[The writer of this article is connected with one of the great chemical organizations of the country. He emphasizes many of the points raised in the past by the MANUFACTURERS RECORD in its effort to arouse the business South to the need of closer cooperation with the farmer.—Editor MANUFACTURERS RECORD.]

By EDWARD F. LAMB, New York City.

BANKERS and other business men can help themselves by helping farmers, on whom a large part of their prosperity depends, by encouraging them to become better agriculturists.

If farmers and growers can be reasonably convinced to adopt new, proved methods, it will be comparatively easy for them to obtain information about these methods and put them into practice with the assistance of county agents, agricultural experiment station men or agricultural college representatives.

The proper use of fertilizers and their application in sufficient amounts in cotton growing, for instance, is perhaps the basic factor on which the virility of this agricultural industry rests. If fertilizing cotton were abandoned, the cotton crop would drop possibly 75 per cent, plant diseases would spread and the quality of lint would be low, so dependent is this crop on fertilizers.

While fertilization is primarily the application of a scientific principle, it has come to be an economic consideration in cotton growing. When we realize that cotton consumes more fertilizer than any other crop grown in the United States, we have an additional picture of the importance of fertilizing cotton crops. More than 31 per cent of the fertilizer used in this country goes onto cotton fields, which represented 2,108,000 tons in the fertilizer year 1927-1928.

The prospects are that the fertilizer tonnage for cotton growing will show some increase in the next few years. Fertilizer manufacturers, county agents and agricultural colleges will be influential in bringing about increased use, but bankers and business men, connected with cotton growing directly and indirectly, can do a great deal toward encouraging growers to fertilize sufficiently and properly and to employ better agricultural methods.

A natural reaction to the foregoing statement might be: "But what has the banker or cotton broker got to do with it?"

Of course, we will admit that bankers are not supposed to understand scientific agricultural practices but they are necessarily interested in the prosperity of growers, who as bank customers, consumers of merchandise and as credit risks, have a definite effect upon the

progress and stability of the Southern banking field.

Many bankers have grasped the situation, and consequently investigate a grower's credit in making loans on the usual basic qualifications of character, capacity and capital, but with greater emphasis on the grower's capacity as an efficient and up-to-date farmer.

These bankers often want to know if the grower, credit applicant, is using heavy applications of fertilizers or is only fertilizing at a rate practiced ten or fifteen years ago. He may inquire about such a detail as the manner in which the grower disposes of his plant stalks after picking time. He may want to know if the grower gets a heavy vegetable growth on his fields before planting, to grow organic matter that will be ploughed into the soil to improve its moisture-holding qualities.

Several state agricultural experiment stations are attacking the problem of fertilizing not only from a scientific agricultural point of view, but from an economic standpoint. These stations are showing that the use of more fertilizer brings increased yields that net greater profit and at the same time produce more organic material—dead cotton plants—that are ploughed into the soil to improve it after picking time.

Those farmers, who catch the significance of the new fertilization program, sometimes discover that they can reduce their acreage under cultivation by taking poorer acres out of cultivation and make as great a profit with less labor on the reduced acreage. They realize that it is not so much a question of how many bales they can produce, but what amount they can grow at the greatest profit. This procedure is, of course, merely applying good business principles to agriculture.

Every cotton broker and cotton-belt banker is a link in the economic chain of cotton from seeding to spinning. In the chain there are a number of fertilizer material producers. These are the concerns that mine phosphate rock in the United States, potash in Germany and France and that manufacture nitrogen in several countries.

These essential materials for complete fertilization of crops—nitrogen, potash and phosphate—are purchased by fertilizer manufacturers, who get them on terms not longer than 45 days if they

have a high credit rating. Otherwise the sales are all sight-draft arrangements, which means a credit risk is often assumed in these transactions by a local banker.

The fertilizer manufacturer must then find an outlet direct to the farmer or through a network of small fertilizer dealers. Credit for these dealers, however, is quite tight nowadays and many of them must depend on local bankers for loans to meet their short-term or sight-draft obligations.

The dealers in turn must sometimes accept the credit of farmers in selling them their goods, or demand cash, which the cotton grower usually must obtain by loan from his banker.

Although the broker, cotton trader or merchant does not become an integral part of this credit structure, he is nevertheless an interested element in the growing of cotton. If behind the trader there are battalions of prosperous growers, they will be encouraged battalions who will endeavor to produce higher grades of cotton and who will try harder to improve their yields after a disheartening year of cotton growing. The grower employing progressive farm methods will survive the off years, and the more growers there are of such caliber the better will be the business of the broker.

Perhaps the most satisfactory means for the bankers to effect improved cotton growing is through stimulating fertilizer dealers to encourage improved farming methods. When the dealer wants bank credit, the banker, who is used to making thorough-going credit investigations, should want to know what kind of farmers the dealer has as customers. The banker may then ask the dealer what he is doing to make better farmers of his customers who, in the economic chain, are at the base of the credit risk the banker assumes through the dealer as an intermediary.

These dealers are far more influential with their cotton grower customers than one might imagine. For instance, nearly 70 per cent of farmers buy their fertilizers from dealers, as is shown by an extensive survey recently conducted by the National Fertilizer Association. Besides, about 65 per cent of the farmers are guided by their dealers in the choice of fertilizers.

The percentage of farmers in the

South who buy on credit varies widely according to the fertilizer association's survey. Generally the percentage is lower in most Southern states than in other agricultural regions. In West Virginia about 11 per cent of farmers buy fertilizers on credit and in Florida the number rises to about 48 per cent. The principal cotton states range as follows: Virginia 26 per cent, North Carolina 40 per cent, South Carolina 19 per cent, Georgia 33 per cent, Alabama 34 per cent and Mississippi 34 per cent.

The relationship of bankers, fertilizer dealers, cotton brokers and growers is not fundamentally different from the interrelationships of the elements in other phases of the business structure.

This article is not written to suggest that bankers and cotton brokers become militant propagandists for better farm methods. Its aim, however, is to demonstrate how closely bound are the prosperity of the banker and the grower, and to show how merely by emphasizing to fertilizer dealers and to growers the need for encouraging the employment of the most modern agricultural methods, the bankers can gradually bring about a condition among growers that will make them better credit risks and consequently better customers.

Kentucky Analyzes Its Trade

Kentuckians annually purchase over \$37,000,000 worth of goods outside their state and export over \$51,000,000 worth of their own products, as shown in the "Flow of Goods Survey" recently completed for the Kentucky Progress Commission by the American Mining Congress, under direction of Dr. Henry Mace Payne. Although the survey, which involved the tracing of 12,800 items and the sending of 20,000 questionnaires, indicates a favorable state trade balance, it also points out that many millions of dollars of goods now purchased outside the state might well be manufactured in Kentucky.

\$2,154,000 For Howard University

Washington, D. C.—In addition to private gifts amounting to \$905,000, Howard University of this city will benefit next year to the extent of \$1,249,000 by the passage of the Interior Department bill. This appropriation includes \$350,000 for salaries, \$160,000 for general expenses, \$200,000 to erect a classroom building to cost \$460,000 eventually, and \$539,000 for the construction and equipment of three dormitories for girls. The General Education Board, New York, contributed \$672,000 to the university, including \$450,000 to acquire additional land for expansion.

Virginia State Plan of Rural Electrification Bringing Results

815 Miles of Rural Lines Built in 1929

Blacksburg, Va., June 7.—Thousands of farmers, and residents of small rural communities located reasonably close to cities and electric power lines, will now be able to get electric service under a plan recently put into effect, states Charles E. Seitz, professor of agricultural engineering at Virginia Polytechnic Institute. It provides that the electric companies finance construction of rural lines, except on private property, and supply power at rates applying in cities or towns from which extensions are built. Before the plan was adopted, practically every power company had a different policy for building rural power lines, Professor Seitz declared. In most cases farmers were compelled to pay all or a large part of the cost of building the lines in order to obtain service. They were charged a rural rate in addition to the city rate; thus the cost was prohibitive and farmers felt they were being discriminated against.

Eighteen power companies, supplying more than 90 per cent of the electric energy used in Virginia, have voluntarily adopted the standard state-wide plan for extension of rural lines.

Last year, 816 miles of such lines were built in Virginia, making a total of 2860 miles of rural electric lines, with approximately 35,000 customers of whom about 6500 were farmers. This compares favorably with the figure of 500 actual farms connected with electric service in 1924, five years before. The power companies estimate that this year they will build about 1200 miles of rural lines to serve at least 7000 additional customers.

In substance the Virginia plan is explained thus by Professor Seitz:

"The power companies will construct, own and maintain at their expense electric line extensions along highways to serve new rural consumers, provided the consumers will guarantee a monthly consumption of electricity equal to 1½ to 3 per cent the cost of the particular line constructed. Individual lines on private property, if required, are constructed, owned and maintained at the expense of the consumer. Contracts for service are made for one to four-year periods, depending on the percentage of monthly guarantee. For example: a four-year contract usually carries a two per cent monthly guarantee.

"The following example illustrates a simple application of the plan in practice: The company's cost of constructing a given rural line extension along a highway to serve five customers is \$1000. Four of these customers' residences are located within 100 feet of the highway, whereas one is 1000 feet from the high-

way. The company constructs at its expense the entire line along the highway, including 100 feet of service wires to each customer. The customer whose residence is situated 1000 feet from the highway constructs at his expense 900 feet of line on his private property. The monthly guarantee on the entire line extension (based on two per cent and a four-year contract) is \$20, and since there are five customers the monthly guarantee for each customer is \$4. The customer receives service at the same rates as charged in the nearest adjacent community, but in addition guarantees to use monthly a minimum of \$4 worth of current."

Although this plan offers a definite and liberal basis for extending rural electric service and has been favorably received throughout Virginia, it is recognized that its adoption will not solve all the problems. If rural electrification is to be placed on a profitable basis both to consumer and to power company, much educational work will be necessary. The power companies recognize this need and are cooperating with Virginia Polytechnic Institute in the employment of agricultural engineers to handle the rural business. These men understand both agriculture and engineering, can meet the farmer on his own ground and talk his language, and they understand his problems. Through such men the power company is able to offer consultation and advice to the end that the rural customer may derive the maximum benefit from electric service.

Award Contract for Lighthouse Tender to Southern Firm

The United States Bureau of Lighthouses, Washington, D. C., recently awarded contract to the Merrill Stevens Drydock Co., Jacksonville, Fla., to build an electrically propelled lighthouse tender for buoy and supply work in the Chesapeake Bay and tributaries. The vessel will be of steel, about 120 feet long, with a 25-foot beam. It will be powered by two Winton Diesel engines driving two 100-kilowatt, 250-volt, 400-r.p.m. electric generators, to supply electricity for propulsion, lighting and auxiliary operations. A single screw propeller will be direct connected to a 240-horsepower driving motor operating on 500 volts at 350 r.p.m. This will be of double-unit construction. Control will be of the armature type with a station in the engine room. Complete electric equipment will be furnished by the General Electric Co., Schenectady, N. Y.

112,000 Horsepower Hydro-Electric Plant in Operation at Calderwood, Tennessee

The new Calderwood hydro-electric plant of the Aluminum Company of America, located on the Little Tennessee River at Calderwood, Tenn., which has been under construction for the past two and a half years, was placed in full operation in April, making available an additional 112,000 horsepower for manufacture of aluminum in the company's Alcoa, Tenn., works.

Including the cushion pool, the dam constructed involved a yardage of 280,000. It is 230 feet high measured from its lowest point to the top of the piers, with a 165-foot height from the normal stream water surface elevation to pond level. Length of the arch section, on center line of crest axis, is 737 feet, while radius of the center line of crest is 325 feet. Thickness at the crest is 25 feet and at the base at crown is 48 feet. This thickness increases toward the abutments. There are 24 flood gates of the Stoney type, each 25 feet wide by 20 feet high. The tunnel is 2400 feet long, 24 feet high and 26 feet wide, inside lining.

Three steel penstocks, each 16 feet in diameter and approximately 250 feet

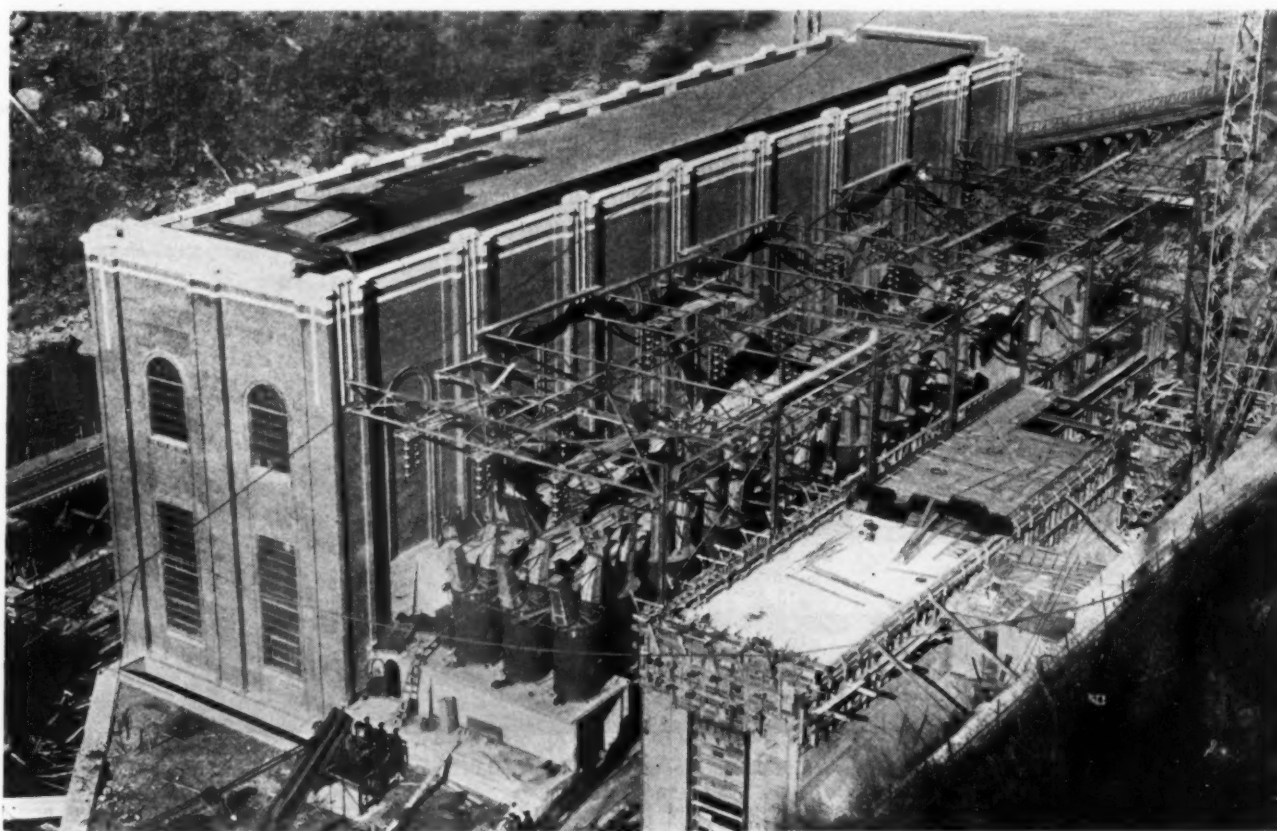
long lead from the tunnel to the power house, and in these penstocks ahead of the turbines are three 16-foot diameter butterfly valves. The power house contains two 56,000-horsepower units operating under a head of 213 feet, with space provided for future installation of a third unit of like capacity. Located 400 feet below the main dam is the cushion pool dam with a height of 40 feet, ogee gravity, and a length of 390 feet. Maximum head on the crest of this dam with a 200,000 cubic feet second flow is 25 feet; maximum depth of the pool is 65 feet, and the free fall from the pond to the pool under the same conditions is 125 feet.

A connection is made by the new plant with the 154,000 volt transmission line of the Knoxville Power Co.; this line is already in service carrying power from the Cheoah and Santeehah hydro plants to the reduction and fabricating works of the Aluminum Company at Alcoa, where a plant for production of aluminum bronze powder was completed late in 1929 and where other expansions are under way or projected.

The Calderwood plant was built by

the Aluminum Company's forces under direction of James W. Rickey, chief hydraulic engineer and T. J. Bostwick, chief electrical engineer. Field supervision was in charge of J. E. S. Thorpe until Mr. Thorpe became president of the Nantahala Power & Light Co. in September, 1929, when he was succeeded by I. G. Calderwood, for whom the plant was named.

Firms furnishing equipment included: Allis-Chalmers Manufacturing Co., Milwaukee, Wis., two turbines and imbedded parts for the third unit, two governors, and three butterfly valves; Westinghouse Electric & Manufacturing Co., East Pittsburgh, two 45,000-kv-a., 13,200-volt, 60-cycle, 3-phase, 150 r.p.m. generators, and seven 15,000-kv-a., 13,200/154,000 (Y) volt transformers; General Electric Co., Schenectady, two 15 kv., 3000 a. switches; American Brown Boveri Electric Corp., New York, three 154 kv., 400 a. switches; Newport News Shipbuilding & Dry Dock Co., Newport News, Va., 24 flood gates; the Riter Conley Co., Pittsburgh, penstocks, and the Pennsylvania-Dixie Cement Corp., Chattanooga, who supplied the cement.



General View of Power House Showing Switching Structure and Butterfly Valve Building

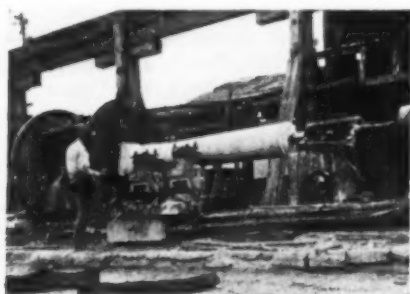
Developing the Stone *and* Marble of North Arkansas

By

TOM SHIRAS,
Mountain Home, Ark.

INVESTMENT of approximately \$750,000 for plant equipment in developing stone and marble deposits in the upper White River valley in North Arkansas, during the past three years, gives the industry a new significance in the state.

Probably no other section of the

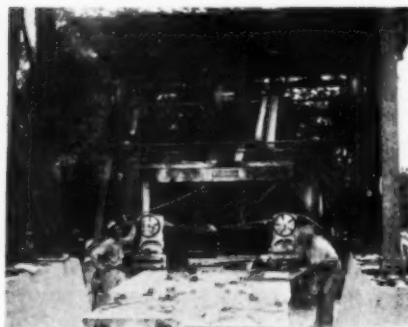


Turning Big Stone Column on Gigantic Lathe in Plant of Batesville Marble Quarries Co.

United States offers such a wide variety of commercial stone. Principal varieties are limestone, marble, cement shales, glass sandstone and phosphate rock. Products now being manufactured from these stones include: Cut and uncut building stone, polished marble for exterior and interior building purposes, monumental marble, glass sand for glass making, sand for many other purposes, lump and hydrated lime for structural

and chemical uses, crushed limestone for railway track ballast, rip rap, and ground limestone for fertilizer purposes.

Phosphate and limestone are available for fertilizer purposes in the territory. Phosphate rock occurs in large deposits on and adjacent to Lafferty Creek in Independence County. It is also present in other counties in both high and low grades; the latter are practically inexhaustible, as are the limestones which



Surfacing Blocks With Stone Plane

occur in some instances in strata 200 to 300 feet thick.

Marbles in the White River country are highly crystallized limestones, principal varieties being the St. Joe, St.

Clair, Boone, Izard, black marble, cave marble or onyx. The St. Joe marble occurs in several shades of red; the St. Clair in pinks and golden vein; the Boone in grays, buffs and variegated; the Izard in grays and mottled, and the black in a true black which in color and texture compares favorably with im-

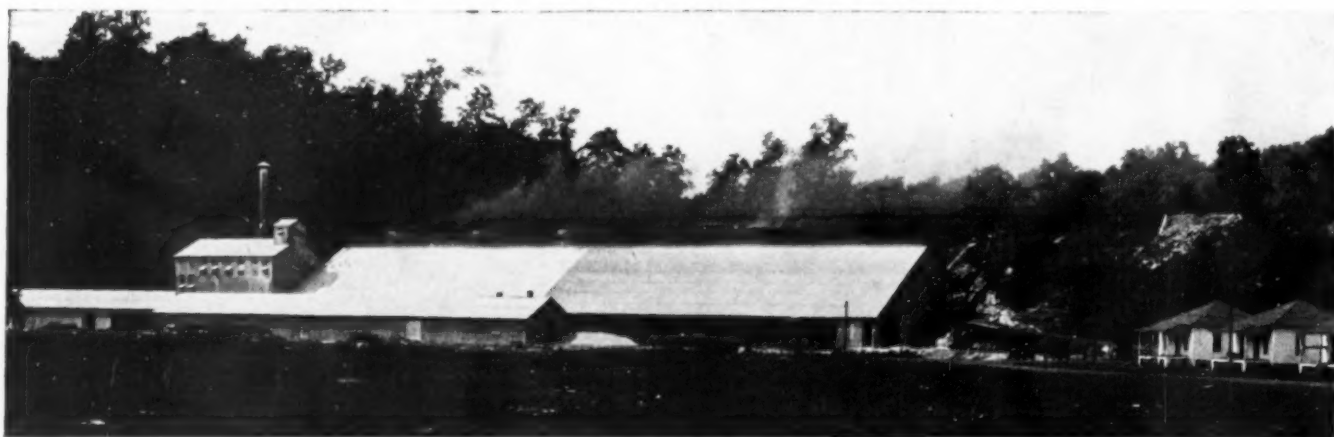


Polishing Machine

ported Belgian marble. The cave marble or onyx is found in caves and is a secondary deposit from adjacent limestone beds.

The St. Peters (glass sand) occurs in large deposits along the White River and is also exposed along many breaks and hollows of the interior.

The cement materials consist of limestone and shales and occur in large



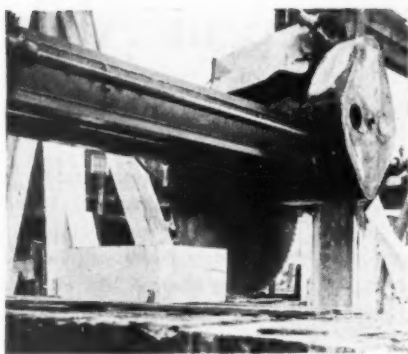
Plant of Batesville White Lime Company at Limesdale, Near Batesville, Ark.

The company also operates a three-kiln plant and quarry at Ruddells, Ark. The plant here shown comprises six kilns and a quarry; hardwood and producer gas are used to fire the kilns. Both plants are operated by electricity. Demand is heavy for ground limestone for those sections of the South where the dairy industry is expanding, while there is a good market for crushed limestone for railroad ballast.

deposits near Batesville. No cement plants operate in the territory, but one large concern proved up an extensive acreage several years ago, purchased the land and is holding it in reserve.

While all the various kinds of stone in the upper White River valley have their economic value, the mineral fertilizer materials are probably the most significant. With its immense reserve deposits of these materials the agriculture of Arkansas is in an impregnable position. Expansion of the dairy industry in the South has already caused demands to be made on the limestone deposits in the territory.

All the physical features so necessary to quarry operations are found in connection with the stone deposits in the White River valley, many deposits occurring in the bluffs. The White River Division of the Missouri Pacific Railroad runs along the river from Batesville to Cotter, Ark., a distance of 100



Cutting Stone With Diamond Saw

miles, and transportation can be had at all quarry sites. The same conditions hold along the Missouri and North Arkansas Railroad, which follows numerous smaller streams that show outcrops of commercial stone and marble on the abutting hills. The streams furnish an abundance of water, and the sand ledges

always present furnish the sand that naturally is required for cutting purposes.

Six concerns, now operating quarries and manufacturing plants in the territory, include: Batesville White Lime Co.; Batesville Marble Quarries Company; Batesville Marble and Granite Company, all Batesville, Ark.; White River Marble Company, Cartney, Ark.; St. Clair Marble Co. and Silica Products Co., of Guion, Ark.

Besides the bedded deposits of stone, the loose stone of the White River country also has its value. Creek-washed boulders and field stone are used in nearby cities and in the hills for structural purposes; they are well adapted for walls in all buildings that lean toward the old English types.

Twenty years ago 90 per cent of all buildings constructed in the Arkansas Ozarks were constructed of lumber; now a high percentage of them are being built entirely or partly of stone.

The Small Industry and Capital

What Are the Proper and Practical Methods of Meeting Legitimate Financial Requirements?

By FRED B. RAKEMANN, Manager, Industrial Development Department, The J. G. White Management Corporation, New York.

DURING the past decade America has experienced its greatest industrial progress. Geographic areas of our country, heretofore practically unknown industrially, are now thriving with manufacturing activities. Mergers, consolidations and dissolutions have been constantly in the public eye, all apparently in the cause of efficiency and greater productivity on the one hand and elimination of the so-called unfit on the other. Various economic factors have contributed to these trends and changes but the all powerful influence has been the securing and use of capital. Sources of ready capital for practically any large financial project appear to be unlimited; little difficulty is experienced by large corporations in securing additional capital requirements. But what of the small industry serving an economic need, and forced to struggle for its very existence? Is it going to have an equal opportunity to grow and profit through availability of capital?

Industrial concerns employing 100 persons or less constitute numerically the larger part of the nation's industrial

structure. Truly, many of these cannot justify further capital investment, but there is a goodly number which can justify such consideration. How is it possible to help those worth while small manufacturers grow and prosper with larger industry? The average banking institution cannot venture into the capital financing field. The investment banking house has become so accustomed to dealing in millions that it is not interested in handling small issues for capital expansion purposes. Private capital has too many attractive investment offers for its idle dollars. However, these three groups can assist materially in remedying the situation. Our banks, in addition to extending liberal credit to deserving industry, can encourage the formation of some independent corporation solely for the purpose of assisting small industry in its capital requirements. The same procedure can be advocated by the investment banking house through organization of a corporation to deal in small issues.

The private citizen with capital can be encouraged by both of these groups to lend some financial support to either or both types of finance organizations. Likewise, commercial and civic organizations can urge that a fair portion of the funds raised for attraction of new industry be made available for financ-

ing existing small industry. Also, these community organizations can advocate greater precaution in investments of a strictly promotional character and thereby assist in diverting considerable capital into useful and worthy channels.

Many of our communities, much to their credit, have established both profit and non-profit making corporations for the purpose of purchasing issues or providing long-term loans at reasonable interest rates to new and to established manufacturing enterprises. However, the scope of influence of such organizations has not been sufficiently spread abroad through the country to make effective this means of financing. If the economic balance of industry is to be maintained, the small manufacturer must be in a reasonably healthy financial condition. The purchasing power which he creates is often of major importance to the community. Certainly it behooves our larger financial and trade centers to stimulate in every possible way their trade areas. These same centers can well afford to give consideration to the condition of small industries which may be located within their established business territories. The deserving small industry must be helped to secure its capital requirements if we are to promote the proper diffusion of wealth and the stabilization of employment.

"Romance in Alabama"

By JOHN TEMPLE GRAVES, II, Birmingham.

THERE are plenty of people these days who say that romance is dead in the South. There are plenty to complain that the days of swords and roses are done, and that Southerners think no more in terms of ma'ms and mammies, of moonlight and mist, of magnolias, muskiedines and mint juleps. Swords and roses, they say, have given place to spindles and safety councils, to rotary engines and "boosters." The South, they aver, is now a cold-blooded business proposition, and Southerners are cold-blooded business machines. Where are the sentiments and romances of Southern yesteryears? The winds of economic strain and material stress, they sob, have blown them all away.

It all depends on one's definition of romance. If romance is a thing of love, faith and struggle, if it's a matter of magic vistas, of giant undertaking and heroic dreaming, of villains in the path, of eloquent youth, of dark days lived bravely through, of the poetry that takes the wide world for its song—then, there's plenty of romance in the South today, and a particular plenty in Alabama.

There is romance, for example, in the love with which Montgomery, the one-time capital of the Confederacy, clings to the legends of crinoline and lace, even as it reaches forward for the economic wealth that belongs to it by right of the rich agricultural areas it serves. It is a love large enough to enfold in one civic heart all that is brave in the city's past and broad in its future. It's a love that can rejoice in the new army tactical school for aviation located there and the distribution machinery developing there for a fast-growing farm and dairy industry, without once forgetting the Confederate memories tenderly preserved in every physical detail on Capitol Hill, where Governor Bibb Graves encounters daily the ghost of Jefferson Davis.

It may be hard to find romance in pickles, or sentiment in cane syrup, or passion in a wood preserving plant—but, Montgomery finds it, and points with pride to the largest pickle plant in the South, the biggest wood-preserving plant this side of Arkansas, the greatest cane syrup factory in the United States. It all depends on the fore and aft, and Montgomery is rich in fore and full of aft.

There is romance, too, in Birmingham's faith, through recent economic depression, in the power of coal, iron

ore, limestone and steel to make it eventually one of the greatest, if not the very greatest, basic producing centers in the world. Broad of street, quick with human energy, its sky-line jagged with giant buildings, its ethers swept now with industrial smoke and again with mountain breeze, Birmingham has faith in the crucible from which will come one day, in hardness and heat, the compound of a vast world center of integrated industry.

There's a world of romance in the recent successful struggle of northern Louisiana to pipe its natural gas across Mississippi, Alabama and Georgia for use in thousands of factories and homes. If you want the very royalty of romance, picture the entry of this natural gas into a place like Birmingham. On a carpet of iron ore, under a canopy of coal, the gas pipes entered the vicinities of this city and were welcomed here into a fellowship of fuel and a parliament of industrial power.

And that is not all. There's romance, too, in the magic vistas of industrial might that lie today in the city of Gadsden. A great national tire and rubber company has lately brought its chapters to swell the story already being written there by an iron and steel industry that wakes up every morning to find itself grown a few feet overnight. Gadsden is Alabama's boom city. In 1920, it was a village of 15,000; today, it is a town of 24,000. Ten years from today, it may be a city of 75,000. And it's going to be a city of a new industrial order, one where civic beauty, economic justice and social content will command the whole wide industrial scene.

And Anniston! There's romance in the immortal longings that live in that city of textiles, chemistry and soil pipe, these days. Longings for the day of light when Anniston's place in trans-continental travel will be won with the completion of the great Bankhead Highway from Washington to California. Longings for the hour when Anniston's teeming industries, grassy boulevards, beautiful parks, playgrounds, and chivalrous people will no longer limp with out benefit of pavement to Atlanta, Birmingham and beyond.

The half hasn't been told of this romance business. There's romance in the heroic dreams of vast aggregates of capital and economic asset which lie behind these new national combinations in industry. Combinations in the chemical, steel and power industries where

Alabama's part is profound. Captains of industry, major-generals of finance, field marshals of economic machinery, are maneuvering at this very moment for giant objectives in a new American industrial dawn. And in much that gives these objectives value, Alabama is richly stored.

There's romance in the giant undertakings in northern Alabama, eastern Tennessee and western North Carolina, where men have chained the lightnings that live in falling waters and turned them to vast electric enterprise. What does it matter that the common denominator of this enterprise bears the unromantic title of kilowatt hour? There can be princes in pickles and there can be kings in kilowatts. To get a heart-throb out of a kilowatt hour you've got only to picture the hour and the kilowatt—the light that floods street and home, the telephone and telegraph with fingers that lace the world, the hum of machines in factories and shops, the sparks that fly from thousands of dynamos to turn millions of domestic and industrial wheels. Dream of these and you'll know that a kilowatt is as romantic a figure as the Black Prince in armour at Agincourt.

Romance! There's romance in the villains that stand today in the paths of cotton and its textiles to glory in Alabama and other Southern States. Villains of over-production, under-consumption, meagre advertising, haphazard marketing, excessive competition, wasteful overhead, wanton lack of organization—villains that can be ousted only through organization. Higher prices for farmers, higher wages for labor, higher profits for manufacturers—that's the trilogy of triumph Alabama and the South can have with organization. But it will have to be organization all along the line, from cotton field to textile counter.

There is no end of romance in the courage Alabamians have brought to the recent months of business depression. There is no use denying the fact of this depression. There's no use denying that it has been hard on Birmingham, where so much depends on markets and consumption. But, now that the clouds are beginning to lift and sales and employment statistics are beginning to improve, Alabamians are proud that under these bludgeonings of chance they "have not winced or cried aloud." None but the brave, they know, deserves or will get a profit on investment in a State like Alabama, where the future belongs

to those who can stand the gaff and hold the step.

Romance! Poetry! There are both, and more, in Alabama's great port of Mobile and the wide world it takes for its song these days. It was well worth while for Alabama to spend \$10,000,000 for building the mighty state docks at Mobile. It was well worth while to have spent \$13,000,000 improving the inland waterway from Birmingham to the Gulf through the Warrior, Tombigbee and Mobile rivers. At Mobile, the breath of a South more ancient even than the one Montgomery remembers is warm along the narrow corridors of streets, and sweet across the suburban paths of the famous Azalea Trail. But Jefferson Davis, returning in spirit to modern Montgomery, would marvel no more than would the ghosts of French, English and Spanish conquerors at this modern Mobile through which industrial and agricultural Alabama flow to the sea. It needs only the sight of great steamers, looming weather-wrapped, mist-born, sea-beaten off Mobile Bay to know the charm and color of marriage to the sea. It needs only the smell of hemp and tar and rope and oil along the water front to have the heart leap with all the magic and mystery of boundless mains and "faery lands forlorn." It needs only the sound of lapping waters against alien hulls to hear the full pulse of the wide world to which a great port presents a sovereign state.

Who says there's no romance left in Alabama or the South! There's plenty of romance. There are swords and roses in every day's news for those who judge a sword not by its scabbard, but its blade; for those who love a rose not for its spelling, but its smelling.

Love, faith, struggle, magic vistas, giant undertaking and heroic dreaming, brave meeting, villains in the path, eloquent youth, poetry that takes the wide world for its song—all of them are here for the eye to find them and the heart to hold them. Romance may die in the South some day, but it will die only when Southerners lose their eyes, hearts—life itself.

Container Manufacture Improving

Marked improvement in the industry manufacturing wood containers for fruits and vegetables is reported by the Bureau of Agricultural Economics. There is no longer the multiplicity of containers moving in interstate trade. Both the number of sizes and the number of varieties have been reduced by legislative edict and manufacturers are adhering closely to the legal require-

ments, with the result that consumers are assured of getting full volume. Progressively the bureau is finding fewer containers that fall into the so-called "deceptive" class.

A special technique and apparatus have been developed to verify specifications for containers. These have proved so satisfactory that the bureau published a special bulletin 75-M, "Method of Testing the Capacity of Fruit and Vegetable Containers under the United States Standard Container Acts," on the method it offers for adoption by states that have local container laws.

\$500,000 Railway Office Building

Roanoke, Va.—General contract to erect a \$500,000 office building here for the Norfolk & Western Railway Co., W. P. Wiltsee, chief engineer, has been awarded to J. P. Pettyjohn & Co., Lynchburg and Roanoke. The structure will be 142 by 152 feet, 7 stories and basement, and will be connected by a passageway with the present building. Three elevators will probably be installed. Structural steel work has been started by the Virginia Bridge & Iron Co., Roanoke.

Floating Electric Power Plant Under Way

**\$1,000,000 Expenditure
Comprising High
Power Unit for**

**for Machinery Installa-
Capacity Mobile
Utility Service**



Over \$1,000,000 is being expended by the New England Public Service Co., Augusta, Maine, to convert the "Jacona," a 400-foot, 7700-ton transport steamer purchased from the United States Government for \$25,000, into a floating power plant with a 25,000-horsepower generating capacity. Upon completion of the remodeling and installation of the equipment, which is being done at the plant of the Newport News Shipbuilding & Dry Dock Co., Newport News, Va., the ship will be put into service as a flexible power unit along the New England coast. It will be moved from place to place as occasion demands and tied-in with transmission systems to supplement local plants where the output is insufficient for the needs. The drought of the past year

accentuated the need of a plant of this nature.

It is expected that its first important use will be to supply energy for the Maine Seaboard Paper Co., now under construction at Bucksport, Maine. This industry, made possible through activities of the New England Public Service Co. in building up the territory it serves, will be ready in December. The Maine Seaboard Paper Co. plans to use about one-third the available output of the new Wyman Dam, now under construction at Bingham, Maine, and the "Jacona" will be in readiness to supply power until such time as power is ready from this new source.

The General Electric Co., Schenectady, N. Y., is furnishing the turbines and generators, and the Allis-Chalmers Manufacturing Co., Milwaukee, Wis., is supplying the oil switches.

CONTRACT FOR \$2,200,000 TUNNEL

Chesapeake and Ohio Lines Will Build
6300-Foot Project

Hinton, W. Va.—The Chesapeake & Ohio Lines, Richmond, Va., have awarded contract to Haley, Chisholm & Morris, Charlottesville, Va., to build a single track tunnel parallel to the old Big Bend tunnel between Big Bend and Hildale, W. Va., about 9 miles from Hinton, to cost \$2,200,000. The new tunnel will be approximately 6300 feet long, to be lined with concrete and the track laid on ballast supported by concrete floor slab and headers. Construction of the new tunnel and approaches will provide a double track between Talcott and Hildale, a distance of 2 miles.

\$23,000,000 IN MIAMI BEACH DEVELOPMENTS

Several Big Projects Under Way or
Planned for 1930

Miami Beach, Fla.—Developments started or definitely planned for North Miami Beach involve an expenditure of approximately \$23,000,000, according to figures compiled by Roy W. Morgan of Morgan & Co., Miami Beach, and published in the Beach Press. These estimates do not include the cost of new homes or the development of private estates, which last year involved an expenditure of more than \$7,500,000. The largest of the proposed developments is that of the Graham-Fisher-Briggs interests, undertaken by the Ocean Heights Co., Inc., with the Graham brothers at its head. This will represent an ultimate expenditure of \$12,000,000, it is estimated, plans calling for a bulk-head filling of 200 acres, streets, sidewalks, landscaping and the property platted for residential lots and estates. Upon completion of the platting there will be 12 ocean front lots with a frontage of 325 feet and depth of 600 feet, and on these lots the first residences are to be erected. Tentative plans call for 7 houses to cost from \$250,000 to \$500,000 each. A yacht basin and clubhouse are to be erected on the bay side of the property and space allotted for five tennis courts.

Another important project is the Sun Ray Club development, being promoted by Dr. Joseph Adams on a 30-acre tract on the west end of the Isle of Normandy. It will be a rest resort and involve the erection of a number of cottages by next winter. There is considerable bulkheading and filling to be done, upon the completion of which a main club building will be erected. The development will represent an expenditure

of \$2,000,000. It is estimated that a similar sum will be expended by the Indian Creek Golf Club for the construction of a golf course on Miami Shores Island and the erection of a clubhouse, plans calling for an 18-hole golf course in the center of the island, with clubhouse and other facilities, while the water front on the bay and island will be platted for estates. Improvements and leasing of the Deauville Casino will involve gross expenditures of \$6,600,000; a new Surf Club project between Collins avenue and the ocean will cost \$525,000; new Sea Club between Collins avenue and the ocean at 86th street, \$300,000; Hassler polo fields, \$250,000, and a Gulf Stream roof bungalow, \$30,000.

\$5,000,000 Mississippi Notes Sold

Jackson, Miss.—Three-year notes in the amount of \$5,000,000 have been sold by the state of Mississippi to Caldwell & Co., Nashville, Tenn., and associates, at a premium of \$101.010. The notes will bear an interest rate of 5½ per cent.

\$1,000,000 Locks for Neuse River

Kinston, N. C.—The local chamber of commerce has appointed a committee headed by Marion Oettinger to collect data to be presented to the Government in support of a movement for the construction of a lock and dam in the Neuse River near Kinston, to give the stream a 10-foot channel. This project, estimated to cost \$1,000,000, would make the river navigable from Kinston to New Bern, it is said.

Plan to Develop Industrial Buildings in St. Louis

St. Louis, Mo.—Facilities for small manufacturing firms are to be provided in a development promoted by Jacob Berger, vice-president of the First National Bank here, to occupy a site of 11 city blocks on the northern river front adjoining the municipal docks at the foot of North Market street. The tract is served by several railroads and is located close enough to the municipal docks to permit an overhead connection between the docks and the plants.

\$15,000,000 Pipe Line Contract Awarded

Phillips Interests Go Forward With 800-Mile Gasoline Transport Project—To Install
10 Pump Stations and Establish Bulk Stations at 50-Mile Intervals Along Route

Borger, Tex.—Contract for approximately 50,000 tons of pipe for a gasoline transport line to be constructed from Borger to St. Louis, has been awarded by the Phillips Pipe Line Co. to the Republic Steel Corp., Youngstown, Ohio. The new line will be 800 miles long and will cost about \$15,000,000. It will extend through Oklahoma and Kansas to Wichita, thence to Kansas City and directly across Missouri via Jefferson City to St. Louis. Surveys have been completed and construction is to start as soon as delivery of pipe begins, probably within 40 days. About 100,000,000 pounds of 8-inch, fusion weld pipe will

be required. Ten pump stations will be installed, equipped with either electric motor driven centrifugal pumps or Diesel-type engines. The new line will transport gasoline exclusively, with distributing terminals at Wichita, Kansas City and St. Louis, terminal facilities at Kansas City having been so designed as to permit the extension of the line north and east, while the St. Louis terminals will include river dockage to permit water transportation to a number of cities. Bulk stations will be placed approximately 50 miles apart for the entire line and a telephone line will parallel it.



Route of Country's Longest Gasoline Transport Line

EXPANDING TOBACCO PLANT

New Facilities Completed at Big Durham Plant and New Stemmy Planned

Durham, N. C.—At its present rate of expansion, the plant here of the American Tobacco Co., will eventually be the largest tobacco manufacturing plant in the world, according to Ashby Penn, son of Charles A. Penn, Reidville, N. C., senior vice-president of the company. This statement was made upon the occasion of the opening of a new railroad spur leading from the plant to the Norfolk Southern line several miles south of the city. T. T. Harkrader, traffic manager and director of the company, reviewed recent developments in the company's expansion program in Durham, which included construction of a steam-electric plant capable of providing power for an additional factory to manufacture 100,000,000 cigarettes daily; construction of 16 big storage buildings for 50,000,000 pounds of tobacco; removal of the Turkish cigarette department from Brooklyn, N. Y., to Durham; construction of the railroad spur and other facilities. Plans are now under way for a new stemmy to employ 400 additional workers. This is just the beginning of the company's expansion here, in the opinion of Mr. Harkrader.

Compressors for \$40,000,000 Pipe Line

Amarillo, Tex.—The Panhandle Eastern Co., recently organized by the Missouri Kansas Pipe Line Co., Chicago and Kansas City, to construct a \$40,000,000 natural gas pipe line from the Texas Panhandle to Indiana, has awarded contract to the Cooper-Bessemer Co., Mount Vernon, Ohio, for engine-compressor equipment for the line. This contract calls for approximately 20,000 horsepower of compressors, costing about \$1,000,000. The proposed line will total 1250 miles, connecting with the company's Kentucky system at a point near Evansville, Ind. The National Supply Co., Toledo, Ohio, was recently awarded contract for approximately \$25,000,000 worth of pipe and other material. The line is expected to deliver gas by December 1.

Larger Talc Sales in 1929

Total quantity of talc sold by producers in the United States in 1929 was 219,144 short tons, valued at \$2,617,756, according to the Bureau of Mines. Compared with 1928 these figures represent an increase in quantity of 8 per cent

and in value of 3 per cent. The figures comprise 11,228 tons of crude talc, valued at \$87,820; 473 tons of sawed and manufactured talc, valued at \$140,928, and 207,443 tons of ground talc, valued at \$2,389,008. There were 23 producers of talc in 1929, three more than in 1928.

Of the total quantity sold New York supplied 109,543 tons, valued at \$1,439,272. Georgia, Maryland, North Carolina and Virginia were among the nine remaining states producing talc in 1929. Imports for consumption were 31,177 short tons, valued at \$671,629. Corresponding figures for 1928 were 27,049 tons, valued at \$579,915.

Southern Textile Exposition Space Nearly All Taken

Bright prospects for success of the Southern Textile Exposition, at Greenville, S. C., October 20-25, are shown in an announcement that every space has been engaged, except a few small sections in the balcony. The Textile Division of the American Society of Mechanical Engineers will hold its meeting on October 22, and the fall convention of the Southern Textile Association will be held on the following day. Special train service at reduced rates will be provided for the week.

The Manganese Industry in 1929

In 1929 for the first time since 1925 there was a substantial increase in domestic production and shipments of manganese ore containing 35 per cent and more of manganese, due chiefly to increased output in Montana, according to the Bureau of Mines.

Shipments of manganese ore (35 per cent and more of manganese) from domestic mines were 60,379 long tons, valued at \$1,612,357 in 1929, as compared with 46,860 tons, valued at \$1,214,853 in 1928. In 1929, 47,597 tons was metallurgical ore and 12,782 tons, chemical ore, compared with 31,430 tons of metallurgical ore and 15,430 tons of chemical ore in 1928. Shipments of metallurgical ore in 1929 were 16,167 tons more than in 1928, whereas shipments of chemical ore in 1929 were 2648 tons less than in 1928. For the fifth consecutive year there was a decline in shipments of chemical ore, shipments in

1929 being slightly more than half the peak shipments of 1924.

Manganese ore was shipped from 11 states in 1929, of which Arizona, Arkansas, Georgia, Idaho, Montana, New Mexico and Virginia furnished 98 per cent of the total shipments. Montana was the chief producing state, supplying 70 per cent of the total. The other 4 states, California, Tennessee, Texas and Utah yielded manganese ore in quantities ranging from a carload in Texas to 569 long tons in California.

Imports of manganese ore in 1929 were 664,269 long tons, containing 323,415 tons of manganese and valued at \$8,450,818, as compared with 427,708 long tons, containing 207,808 tons of manganese and valued at \$5,395,949. Of the total ore imported in 1929, nearly half was from Russia, 33 per cent from Brazil, 11 per cent from India and 5 per cent from the Gold Coast.

MANGANESE AND MANGANIFEROUS ORE (EXCLUSIVE OF FLUXING ORE)
SHIPPED FROM MINES IN UNITED STATES IN 1929

State	Ore containing 35 per cent or more of manganese		Ore containing 10 to 35 per cent of manganese		Ore containing 5 to 10 per cent of manganese	
	Number of Shippers	Shipments	Number of Shippers	Shipments	Number of Shippers	Shipments
Metallurgical:		Tons		Tons		Tons
Alabama	3	2,655	3	475	..	..
Arizona	3	4,308	1	45	..	..
Arkansas	3	4,308	3	13,774	..	..
California	4	569	..	..	..	..
Colorado	2	2,521	2	17,770	..	..
Georgia	2	1,326	7	5,310	..	..
Idaho	3	..	1	38	..	..
Michigan .....	..	..	1	11,023	2	38,089
Minnesota .....	..	..	1	5,421	5	1,004,420
Montana	3	29,945	1	15,665	..	..
Nevada .....	..	..	5	2,407	..	..
New Mexico	3	2,969	..	..	1	67,558
Tennessee	3	523	3	241	..	..
Texas	1	42	..	..	..	..
Utah	2	88	2	5,942	..	..
Virginia	7	2,651	2	80	..	..
Total	34	47,597	32	78,191	8	1,110,067
Chemical:						
Montana	*2	12,382	..	..	..	..
Virginia	1	400	..	..	..	..
Total	3	12,782	..	..	..	..
Grand Total	37	60,379	32	78,191	8	1,110,067

*Mills through which all shipments were made. Individual producers not counted.

LETTERS FROM OUR READERS

A Cotton Compressor Defends the Square Bale

Tuscaloosa Compress Company.
Tuscaloosa, Ala.

Editor Manufacturers Record:

Concerning the article by Mr. Harvie Jordan of Atlanta on the merits of the round bale (gin press) in your issue of May 15:

Mr. Jordan's letter did not give you all the facts pertaining to the present handling of hidensity cotton and he included for comparison some charges that are not made.

For instance, a standard 36 foot box car will carry 46 bales of flat cotton instead of 33 bales. It is not necessary to ship cotton to a port to get it to hidensity as his figures indicate. The regular interior charge is based as follows: Seventy-five cents (15c per cwt.) per bale for standard density which is paid for by the carriers out of their rate, and if the shipper wants it put to hidensity at the same time an additional charge of 35c is made which is paid by the shipper; therefore the total price is \$1.10 per bale for hidensity.

On account of heavy volume many port presses do hidensity for 75c per bale and some few interior ones do so, but the price paid by carriers is included in the rate of freight and is not assessed against the purchaser.

Mr. Jordan evidently means "any quantity" rate instead of "any commodity," but you well know this is to enable the farmer with one bale or 500 to ship from gin point to concentration point as there are some 100 different grades and staples of cotton. This is merely a transit movement similar to that for wheat or corn.

There are many American mills today which do not want hidensity cotton at all, and some object to having it put to standard density, preferring to have it flat.

In practically all cases the farmer sells his cotton flat and it is then up to the cotton merchant to class his cotton and sell to the best advantage after segregating the different staples and grades which are usually sold in round lots of 50, 100, 500, or 1000 bales.

Such procedure would be impossible at the different gins.

Mr. Jordan mentions the "City Crop" as being a loss, which is not a fact, as all cotton is sampled after being weighed. Therefore the owner bales up his samples and usually gets about the middling price for them and this is deducted from original weights of the bale when weighed in by the consumer. He further comments on "country damage" as a liability at the rate of some \$30,000,000. Yet it is hard to understand why one bale would not damage as much as the other if left under bad conditions.

It is hard to understand where there

would be anything saved in storage as you have two bales against one to handle, a greater expense.

By having the cotton in flat (square) bales each purchaser has the privilege of sampling before compression to see that he is getting proper staples and grades, and it is seldom necessary to resample hidensity cotton, although it is sometimes done.

We fully agree that most of the tare used is of poor quality and improvement could be made and that each kind of bale has its advantages over the other, but if left to the merchants and consumers we believe the square bale will win.

S. G. SWAIM, Secretary-Treasurer.

Expects Corporate Farming to Produce Bulk of Cotton in Future

The Hicks Company, Ltd.,
Shreveport, La.

Editor Manufacturers Record:

Having read the editorial, "A Thought for the Cotton Farmers," in your issue of May 1, quoting my friend and former co-worker, B. B. Jones of New Orleans, in regard to corporate farming as applied to cotton production, I note his fear that it may bring about a condition of peasantry among the masses of small cotton farmers. I am free to admit that I expect to see the bulk of the cotton grown in the near future by large corporations where it can be grown in an efficient manner and where everyone who works with the crop will realize a living profit from handling the crop. That happy condition with reference to cotton production does not hold true at present, nor can I conceive of a condition of peasantry that could be worse for the large majority of small cotton farms, where wives and children slave and toil year after year trying to eke out a miserable existence, and who rarely ever realize enough from the cotton crop to give them the necessities of life, and never any luxuries.

My observation from working with cotton farmers for the past 20 years is that the majority of the small farmers are very inefficient in their methods of farming and management, and it stands to reason that inefficient methods as applied to cotton production are doomed to give way to more efficient methods just as the horse and buggy gave way to the automobile as a faster method of travel. Did it make the poor classes poorer? It did not. The great production and assembly plants and the garages gave employment to millions of idle workers. Does mass or corporation production in Henry Ford's great factories create a condition of peasantry? It does not, but on the contrary it provides labor at high wages for hundreds and thousands of men and women who have more money and luxuries than they ever had before. What did all these thousands of people do before the automobile came? Thousands of them

were working in the cotton fields and not making a decent living. Would they go back to the cotton fields? No! Why? Because under their own guidance and management they were not successful, but with proper direction and management they are able to make a better living.

If the world demands cheaper cotton and the small farmer cannot adjust his farming operations to meet economic demands of the times, he must of necessity retire from the cotton fields and take up some other vocation directed by himself or by someone else that will provide him the necessities of life. And if by his own efforts he has been unable to make a profit as a cotton farmer, does it stand to reason that his condition will be any worse if he has to change his unprofitable vocation and try something else? Cotton production today is profitable to very few. It needs to have something happen to it that will jar it loose from the cloud of lethargy and hopelessness that seems to hang over it.

Inefficiency must give way to efficiency, it is the law of survival. Can the railroads stop the building of great concrete highways extending from the Atlantic to the Pacific, and from Canada to the Gulf Coast, over which great motor trucks and passenger buses are plying, taking the freight and passenger traffic on short hauls quicker and more economically than the railroads could do it? Progress and efficiency, like youth, must be recognized and served. We must join the parade or be left behind.

My father was a small inefficient cotton farmer. I grew up in the cotton fields of Mississippi, and no class of people are closer to my heart or have more of my sympathy, but I do not condone inefficient methods, and when I realized that I could not produce cotton efficiently because of lack of facilities that called for an outlay of capital that I did not have, I quit growing cotton and directed my activities into other channels.

Tractor farming is efficient farming. It cuts the cost of per-pound production almost in half. It enables the farmer to make a profit on his operations and he thereby is able to pay his labor living wages, and pay each week instead of once a year. When the cotton farmer makes money, everybody in the South has money, business is better and everybody is happy. The South failed miserably in 1929 in the way of profits from cotton production, the cotton farmer took a loss of \$20 a bale and is still struggling under this load of depression and trying to make another crop with a large question mark hung out before him as to what the outcome will be.

If corporation farming with the tractor on large areas and efficient management and the cotton picker can change the old inefficient unprofitable system to a profitable one, God speed the day.

J. B. ANTHONY.

For thirteen years County Agent for Caddo Parish, the greatest cotton producing county in the State of Louisiana.

IRON, STEEL AND METAL MARKET

Seasonal Decline in Steel Activity Is Less Than Usual

Pittsburgh, June 9—[Special.]—Steel trade activity has decreased distinctly more in the last week than in previous weeks, but it still remains the fact that the decline, purely seasonal, is milder than usual. One might be disposed to conclude from this that general business is improving, taking the edge off seasonal decline, but that would be quite unsafe. The slowness of the decline may be due to some buyers having made commitments later than usual, on account of the general conservatism, while there is also the point that manufacture of line pipe has just lately become very active, helping in no insignificant way to sustain the total of steel production.

Steel ingot production last week was slightly under 75 per cent of capacity. While precisely accurate estimates cannot be made, the general swing is shown by stating that production reached a mild peak late in April, then declining about a point a week for five weeks, but a couple of points last week.

Some of the finished steel markets are decidedly sluggish, that being particularly true of sheets and of wire products in general. Bars are not particularly active. Plate demand has proved disappointing, except in plates for line pipe. Shape demand continues quite heavy. Tin plate is running in approximately seasonal manner, production being off a trifle in the last few weeks while production in the year to date is off about 5 per cent from last year. Bar demand is quite fair in some directions and poor in others.

Automobile production, practically stationary for several weeks, has now begun to decline, a few weeks later than usual. Production has been fair except by comparison with last year, but this is only in number of cars and as production is confined very largely to two light cars the volume of steel taken makes a poor comparison.

Agricultural implement works are now beginning to slow down for the summer as usual.

Fabricated structural steel lettings reported last week totaled 23,000 tons, making a light week, but the average of the last five weeks is 10 per cent over the weekly average in the year up to that time.

There has been hardly any freight car buying since May 1 and prospects are that there will be little for some time to come. There is still a fair sized order book, for Class 1 roads had 31,846 cars on order May 1 and installed 35,984 cars

during the preceding four months, so that the order book represents 3½ months of work.

Placing of orders for 24-inch pipe for a natural gas line from the Texas Pan Handle to Chicago, nearly 1000 miles, was reported some time ago. Now it develops that there will be a second line, by the same interests, to St. Louis, Detroit and other cities.

The Phillips Petroleum Company has placed a series of orders for a total of 700 miles of line pipe for carrying gasoline, half the mileage being in 10-inch.

Finished steel prices have hardly shown much additional weakness in the past week, but that is the best that can be said of them. In several lines the market has been irregular for a long time, there being shading and cutting in rather erratic manner. A good idea of the price situation is given by this curious fact, that in bars, shapes, plates, strips and sheets producers name certain flat prices, without a range, as representing "the market" and at the same time admit that single carloads can be bought at the figures. On desirable orders there is shading or cutting of these figures. Pipe and wire products are quite steady following recent open reductions.

There has been some buying of heavy melting steel scrap by Pittsburgh district mills in the last fortnight on a general basis of \$15, representing a slight decline.

Metals Reach New Lows

New York, June 9—[Special.]—New low prices were touched by some of the metals during the past week along with new lows for other important commodities such as silk and rubber. Silver was down to 34c per ounce on Wednesday, a new all-time low and 6 cents below the level at which the market was fairly well stabilized early in the spring. Tin sold at 30c per pound, the bottom level since 1922 in this country, while prices at London were the lowest since 1914. Usually the London and New York tin markets follow each other very closely. The reason therefore why tin is lowest only since 1922 here and since 1914 at London is that the pound sterling was much lower during the post-war period than at present.

Antimony metal also declined to a new low at 7½c per pound, duty paid. Copper prices held firm though some second-hand metal sold ½c under official prices of 13 cents. Lead prices were steady at 5.50c, New York, and 5.40c, East St. Louis. Zinc prices also held

well at 4.65c per pound, East St. Louis.

Purchasing in all of the metals was light. Not only are consumers apparently not in any urgent need of metal but they also wish to let the price declines take their course before entering the market. The only statistics which have come out so far for May pertain to tin. The world's visible tin supply increased 3176 tons to the total of 39,771 tons, the largest on record. American tin deliveries were 5710 tons, way below normal, while Straits tin shipments were too large at 10,074 tons. Tin prices fell considerably further after the May figures were announced.

Conditions in the steel industry are none too cheerful, with operations falling steadily, though gradually. The industry works at about 72 per cent of capacity as against 96 per cent at this time last year. Makers of lower priced automobiles are curtailing production and the Ford Motor Co. has been laying off workmen. However, some of the makers of more expensive cars will probably increase production since they have introduced new models. Structural steel sales are lighter after several weeks of brisk activity.

Statistics on copper for May will come out the latter part of the month. Though the majority of observers look for a decline in surplus stocks, some think that there will be a slight gain. The fact that May sales were the largest in history led many to believe that surplus stocks would be reduced tremendously, but they did not stop to realize that the bulk of sales were for June shipment. At any rate the June figures should be more favorable, unless sales for this month are unusually poor.

Copper sales for export during May were 121,000 short tons, comparing with 102,250 tons in May, 1928, the previous record. Domestic sales are not so readily ascertainable but total and domestic sales were probably 300,000 tons. Per capita consumption of copper in the United States in 1929 was 18.84 pounds, the highest on record, according to the American Bureau of Metal Statistics. This compares with 16.45 pounds in 1928 and with 11.83 pounds in 1919.

Rather quiet conditions in copper are expected through most of the summer. During last month's buying movement consumers covered main requirements through July. It looks now as though consumption will not increase as rapidly as expected, in which case much of the copper bought last month will carry over to fall before it is consumed.

Several copper companies cut dividends during the past week and more

are expected to follow. Some companies have reduced wages again, in some cases having become effective June 1 and in other instances to take effect on July 1.

Export sales of copper have averaged 1000 tons daily over the past week. Domestic business has been light, but by no means stagnant. The purchasing now is entirely for shipment this month. Foreign users have been complaining because during the buying movement of May Copper Exporters, Inc., would sell only certain quotas per day and not supply all the demand, the idea of the export association being to bring about a steady volume of business.

The low prices in tin did not attract consumers and business has been very quiet. It is reported from London that the Tin Producers Association is about to recommend drastic steps to remedy the situation, one proposal being to shut down all mines for one to three months to give consumption a chance to catch up with output. However the tin mining industry is so scattered and so heterogeneous that uniform programs will be difficult.

London lead prices have been maintained 20 points above American prices which keeps our price levels intact. Buying is light but the situation is sound. The zinc market holds merely because of the stubbornness of producers against cutting prices further. Demand has been all but stagnant.

A Decrease in New Business in Pig Iron

Birmingham, June 9—[Special.]—Steady shipments of pig iron are noted but new business is showing decline. New business in steel is also showing a falling off, railroad purchases in the last few weeks being nil. Ingot production will be off this month and finished mills operations also will be reduced; the rail mill of the Tennessee Coal, Iron & Railroad Company and some of the open hearth furnaces of the mill in Ensley are now down, all orders having been filled, with no new business being offered. Considerable pig iron is yet due melters and efforts are being made to complete deliveries on existing contracts during the month. Books are still unopened for the third quarter. Intimation is given that there will be much iron required during the next three months, some of the steady melters anticipating summer business which will warrant active operations.

Production of pig iron is being maintained. Shipments are in excess of the make which means further reduction of surplus stock. There is some iron due consumers in the East, though tonnage is not large. A few contracts also have

been booked recently from the middle west. New business in the home territory may be delayed until inventory of the first half of the year has been completed.

Cast iron pressure pipe shops are active, five days the week and in some instances three shifts to the day. The stove foundries are preparing for a good season. Gas ranges are being made on a larger scale as the service of natural gas is extended throughout this territory, lateral lines being built in several directions from the main line of the Southern Natural Gas Corporation bringing gas from the Monroe, La., fields. Specialty shops on various products of iron are also enjoying a little activity.

While the closing down of the rail mill and some of the open hearth furnaces of the Tennessee Coal, Iron & Railroad Co. came a little sooner than was anticipated, it is stated there will be no interference with the program of development, improvement and betterment at the Fairfield sheet and other mills, for which an appropriation of more than \$8,000,000 was made a few weeks ago. Much material for these developments and improvements is purchased right here. Mills at Fairfield, including the sheet and plate producers, are very active and sufficient business is in sight to warrant continued activity.

There has been the usual summer reduction in production in coal. Campaigns are being waged looking to purchasing by individual consumers so that retail dealers can estimate against early fall and winter requirements. With more residences and apartments shown in a survey made by the real estate board of Birmingham and a casual inquiry throughout the territory, expectations point to a greater retail business in coal this year. Railroads have placed their orders, increasing minimums and maintaining maximums in tonnages and holding to prices obtaining in past two years. Further installation of machinery in coal mines in this state is still commented on as to having effect on lowering the cost of production. Loading machines are being placed in some of the mines of this district.

QUOTATIONS ON PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$14.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$14.50; iron of 2.75 to 3.25 per cent silicon, \$15.00; iron of 3.25 to 3.75 per cent silicon, \$15.50.

OLD MATERIAL

Old steel axles	\$14.00 to \$15.00
Old iron axles	14.00 to 15.00
Old steel rails	11.00 to 12.00
Heavy melting steel	10.50 to 12.00
No. 1 cast	10.00 to 12.00
Stove plate	10.00 to 11.00
No. 1 R. R. wrought	10.00 to 10.50
Old car wheels	10.00 to 11.00
Old tramcar wheels	11.00 to 12.00
Machine shop turnings	7.00 to 8.00
Cast-iron borings	7.00 to 8.00
Cast-iron borings, (Chem) ..	12.00 to 13.00
Re-rolling rails	13.00 to 13.50

Petroleum Coke Output in South on Increase

While the Atlantic coast area has experienced a decrease and the Appalachian and Indiana-Illinois areas have been holding their own in production of petroleum coke, Texas and the Oklahoma-Kansas district have almost doubled their output of this product during the decade beginning 1918, according to Economic Paper 9 on Petroleum Coke, prepared by E. B. Swanson, economic analyst of the Bureau of Mines. The Louisiana-Arkansas region has produced from 9.5 to 13.6 per cent of the national total during that 10-year period, and the Rocky Mountain area has also shown increases. Production for the country has increased from 559,700 short tons in 1918 to 1,426,600 short tons in 1928.

"The largest single item of consumption results from the fuel needs of the petroleum refineries, as the relative prices of petroleum-coke screenings and fuel oil have caused refiners to burn their own coke screenings," states the paper, which also discusses in a comprehensive manner the production methods, and the relative merits and the uses of coking-still coke and of the cracking-still variety. It is further asserted that coking-still coke, being lower in volatile content and large in size, is used to meet the needs for relatively pure form of carbon required in manufacture of electrodes and other carbon products and in various electrochemical and metallurgical operations, while the higher volatile content and the greater proportion of fine sizes of the cracking-still coke adapt it especially for use as an industrial fuel.

An example of the utilization of by-products from oil distillation in the South is the arrangement at the plant just completed at Baton Rouge, La., by the Louisiana Steam Products, Inc. This plant, which will furnish steam to the Standard Oil refinery adjoining, is to use as fuel the waste oil and sludge from the refinery's operations.

To Construct 32-Mile Rail Line

St. Louis, Mo.—The St. Louis Southwestern Railway Co. has been authorized by the Interstate Commerce Commission to purchase the Arkansas Short Line for \$600,000; to construct about 32 miles of line between Caraway and Truman, both in Arkansas, and to acquire land needed for a portion of a project from the line of the Cairo, Truman & Southern Railroad Company. These developments are steps in a plan of the St. Louis Southwestern to provide a new and shorter route between St. Louis and Memphis.

HIGHWAYS AND MOTOR TRANSPORT

ALABAMA PLANS 200 MILES OF PAVING

\$4,100,000 of Federal Funds May Be Matched by Counties

Mobile, Ala.—Following an announcement that \$4,100,000 Federal funds will be available for highway construction in Alabama after July 1, the State Highway Commission has projected plans for the completion of the Bee Line highway from the Tennessee line to the Gulf at Mobile and to the Florida line below Dothan, with the two branches forking at Montgomery. It is said an effort will be made to have certain counties match federal funds to be expended within their borders, and if sufficient funds become available, the Bankhead highway between Birmingham and the Georgia line, via Leeds and Anniston, also will be completed. At least 200 miles of roads will be paved.

4000-Foot Bridge Projected

Pensacola, Fla.—Decision of the War Department as to navigable channel requirements is awaited by Escambia County officials, who plan a county-owned bridge across Perdido Bay to connect Baldwin County, Alabama. The county has applied for a permit, submitting a design calling for approximately 4000 linear feet of bridge, of timber-treated trestle except the navigation span which would be of steel. The structure would be located at the site of the old timber bridge about 12.5 miles southwest of Pensacola and would be built by a bond issue, with tolls to retire the bonds. Winston E. Wheat, county engineer, is in charge of design and construction.

Important Mississippi Road Project

A measure recently passed by the Mississippi Legislature authorizes the State Highway Commission to pave the road from Pearlinton, Miss., to the Louisiana line, a distance of 11 miles, to connect with the Chef Menteur-Rigolets free bridges. Construction of this road assures a short line from New Orleans to resorts along the Mississippi Gulf Coast. A road out of New Orleans is being hard-surfaced and a road between the Chef Menteur and Rigolets bridges is planned by the Louisiana Highway Commission. On the proposed route, the distance between New Orleans

and Bay St. Louis will be 60 miles, compared with 82 miles over the route now used.

\$7,000,000 Mississippi River Bridge Opened

Vicksburg, Miss.—The \$7,000,000 rail and highway bridge across the Mississippi River here was recently formally dedicated, a special train from the west bringing 1000 visitors to the celebration and crossing the huge span as river craft passed under the central arch. The bridge is more than 7500 feet long and was built by the Vicksburg Bridge and Terminal Co., of which Harry E. Bovay, Memphis, is president. Harrington, Howard & Ash, Kansas City, Mo., were the engineers. The following major contracts and sub-contracts were awarded:

Substructure for river spans—U. G. I. Contracting Co., Philadelphia, Pa.
Superstructure for river spans—American Bridge Co., Chicago
Superstructure for west approach trestle—Virginia Bridge & Iron Co., Roanoke
Embankment in west approach—J. A. Kries & Son, Knoxville, Tenn.
Channel mattress—Woods Brothers Construction Co., Lincoln, Neb.
Compressor plant equipment—Bury Compressor Co., Erie, Pa.
Heavy timbers—Perry Lumber Co., Vicksburg
Hoisting machinery—American Hoist & Derrick Co., St. Paul, Minn.
Pile driving—Hanna Construction Co., Jackson, Miss.
Steel caissons—St. Louis Structural Steel Co., St. Louis.

Population's Drift to Small Towns and Cities Analyzed

Road Builder Holds Well-Paved Towns With Modern Facilities Draw Rural Residents

The lure of good pavement for motor-ing around American cities, the ease of trading afforded by the extension and widening of thoroughfares, and the roominess and beauty of rapidly developing suburbs are the main factors behind the population drift away from rural to urban life.

This is the view of George F. Schlesinger, managing director of the National Paving Brick Manufacturers Association, and former state highway director of Ohio, whose observations are based upon first hand information on the relation of paving to the present population drift.

It is Mr. Schlesinger's view that the present population drift is not so much toward the large city as it is toward the smaller population centers and their suburban areas. In other words, the well-paved town of 10,000 to 20,000 is the half-way point, and the people who are now being checked as missing from farms and villages are not after all so far away from their original habitat. They are simply going to the next point where well-paved streets, consolidated schools, better store keeping, and spacious moving picture houses with good music are within easy reach. It is in those latter centers and not in the large cities where the most satisfactory gains in population are being made.

"While not generally noticeable at this time," said Mr. Schlesinger, "there is beginning to appear a split-up of Amer-

ican cities. In the light of the story which census figures for 1930 are beginning to tell, this may come somewhat as a surprise, but it will soon be a very clear fact. Take such centers as Chicago, Cleveland, Cincinnati, and other centers of like character. Here we find, when we bore into the situation, not one great city but a group of little cities, and it is getting so now, with dependable pavement on roads and streets, that the little city group farthest away has all of the trading advantages of the group nearest to the heart of the large center, which boastfully claims the whole group of little centers around it as coming within its metropolitan area. No, it isn't the city that is doing the pulling away from rural areas. It is the well-paved, beautifully landscaped stopping place closer to the open country. And good pavement plus the motor car, I might add, is affording the people a way of escape from the smoke and noise of the restless and busy city. Some day we may be able to add the commercial value of restful slumber to other values that good paving bring to the beautifully built-up communities, but for the present we are content with the tangible values that we already enjoy.

"But the population drift toward the beautiful half-way points on the road to the city is bringing with it an opportunity and responsibility, an opportunity to further widen the home-owning and home-loving areas around our cities, and a responsibility to see that taxes are decreased rather than increased through the construction of dependable streets and roads. In other words, to see that we get built-in values in our public improvements, along with our building up process toward the sound development of happier communities."

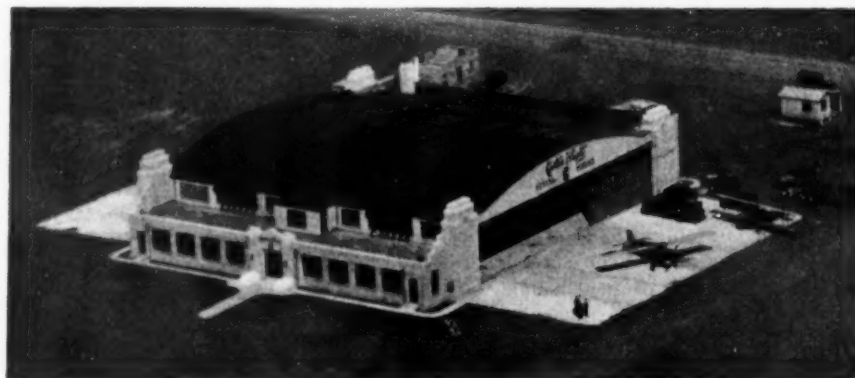
AVIATION, AIRPORTS AND AIRWAYS

Bids on Flying School Construction

Schertz, Tex.—Bids will be opened June 27 by Captain A. W. Parker, Constructing Quartermaster at Randolph Flying Field, for a \$160,000 academic building, Ralph Cameron, architect; \$220,000 administration building, Atlee B. and Robert M. Ayres, architects; \$200,000 air corps shops building, Henry T. Phelps, architect, and for an operations building and a parachute building to cost \$52,000, all architects of San Antonio. The W. E. Simpson Company, San Antonio, is the engineer.

Big Orders for Navy Planes

The Glenn L. Martin Co., Baltimore, has received an order from the Navy Department for 25 boat-type patrol airplanes to cost \$1,396,000. These will be similar to 30 navy planes now under construction in the Martin plant and delivery will begin before the end of June. The new ships will be equipped with two motors of 575 horsepower for a speed of 127 miles an hour and a cruising range of 750 miles. They will be entirely of metal and will weigh 14,500 pounds fully loaded, the useful load being 6000 pounds. The Navy Department also awarded contract to the Douglas Co., Santa Monica, Cal., for 18 torpedo and bombing planes to cost \$939,000, and to the Hall Aluminum Aircraft Corp., Buffalo, N. Y., for 9 control boat planes to cost \$654,000.



Hangar at Curtiss-Wright Airport, Oklahoma City.

This building was completed recently by the J. F. Russell Construction Co., Louisville, Ky. The hangar is 100 by 120 feet with two lean-tos. A single story lean-to on the west includes offices, waiting room, wash room, student locker room and pilots' quarters. The two-story lean-to on the east houses the shop, stockroom, boiler room and the grounds school. The field is located about eight miles from the heart of Oklahoma City, with no hazards around it, and the terrain is said to be ideal for a flying field.

Virginia Promotes Airport Development

Virginia encourages airport establishment by offering State assistance to any town or city that will rent or purchase a suitable site, and maintain the field after it is built. Under the terms of an act of the legislature appropriating \$50,000 for the purpose, the State Highway Commission furnishes engineers to supervise and the equipment at actual operating cost to construct the fields. There are 34 fields now in various

stages of development, ten of which are in such condition that aircraft can land and take off safely.

New Traffic System for Air Service

The American Air Transport Association, Chicago, has perfected plans for the exchange of through passenger traffic between the more than 20 air lines operating over a network of 30,000 miles. Through-line tickets will be made available and each operator, in effect, will become an agent for every other line.

Washington-New York Air Service

Washington, D. C.—The Washington airport will be the southern terminus of a new hourly passenger air service between this city and New York, to be inaugurated August 15 by the New York-Philadelphia-Washington Airway Corp., recently chartered in Delaware with a capital stock of \$1,000,000. The Newark airport will be the northern terminus, while the Philadelphia terminus will be at the Central airport, Camden, N. J., from which buses will convey passengers to the Philadelphia business center. Buses will also transport passengers from the Newark terminus to New York. The schedule calls for ten trips each way daily. Stinson trimotored airplanes powered by Lycoming engines will be used. C. T. Ludington is chairman of the corporation board.



New Hangar for Candler Field, Atlanta.

The Southern Air Transport, Inc., main office Fort Worth, Tex., is using this new hangar, 80 by 100 feet, at Candler Field, Atlanta, Ga. It has a 100-foot entrance equipped with Fentress sliding doors, which fold against the walls. The floor is concrete. The offices, mechanics work room and waiting room are constructed of cinder blocks with stucco and plaster finish, combining comfort and attractive appearance. In addition to the hangar space there is a work room, stock room, two offices, washrooms for men and women, and a commodious waiting room for visitors. The company operates the mail contract to Birmingham, Mobile, New Orleans and Houston, departing for the west at 5.30 o'clock A. M. and arriving at 6.30 P. M. It recently completed hangars at New Orleans and Dallas. Lee Sanders is division manager of the Southern Air Transport, Inc., at Atlanta.

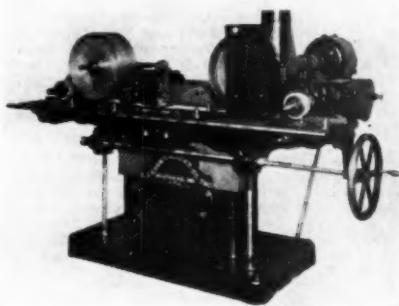
NEW AND IMPROVED EQUIPMENT

Announces Miniature Switchboard

A miniature switchboard to control an electrical system from a central point has been announced by the General Electric Company, Schenectady, N. Y. Of unique construction, the board will effect a great saving in space, it is stated, being made up of one or more self-contained units arranged in circular formation. Each unit is factory-built and made of welded fabricated parts. The switchboard occupies an angular space of 30 degrees so that a total of six units may be mounted in the half-circle, leaving the operator a space $4\frac{1}{2}$ feet in diameter.

Automatic Moulding Sander

The sanding of mouldings, which has been done heretofore largely by hand, has been a major consideration of wood finishers because of the cost involved. A new machine, expected to have an important bearing on the cost of sanding



Groot Machine for Sanding Mouldings

curved surfaces, has been developed by the L. J. Groot Machinery Co., Inc., Baltimore, Md., and is being manufactured by that company. It is the Groot automatic "Fast Feed" moulding sander and is described as capable of sanding the entire surface of multi-membered mouldings at one operation, at the rate of 48 feet per minute on hardwood and 54 feet per minute on softwood, leaving the members and corners perfectly sharp. The machine will take material up to 6 inches wide and 6 inches thick for sanding in one operation, while a special bed may be had to sand wider materials up to 12 inches. All bearings on slow revolving shafts are of phosphorous bronze and those on fast revolving shafts are ball bearing, dust-protected and with alemite tips. Sand belt pulleys are of the disc type, the driving pulley being encased in a dust chute and the idle or take-up pulley made of aluminum, mounted on a stud and run-

ning on ball bearings. The form holder is mounted on a column of the machine and may be adjusted across the material, a micrometer adjustment moving the form to exact position and securely locking it. Straightening rolls are rubber covered and feed rolls are mounted on square threaded shafts, while the forms are made of hardwood cut on a band saw and fitted by scraping. An electrical push button is so placed that the operator has full control at all times and all electric wires are encased in a conduit and built into the machine.

Portable Spraying Outfit

The Metal Specialties Manufacturing Co., Chicago, announce a new all-electric portable spraying outfit—Presto model 155—described by the manufacturers as capable of giving perfect, high speed application of lead paints, enamels and other heavy materials as well as oil paints, lacquers, shellacs, varnishes and bronzes. A unique nozzle design is said to atomize completely these liquids internally, eliminating excessive fog and



Presto Model 155, All-Electric.

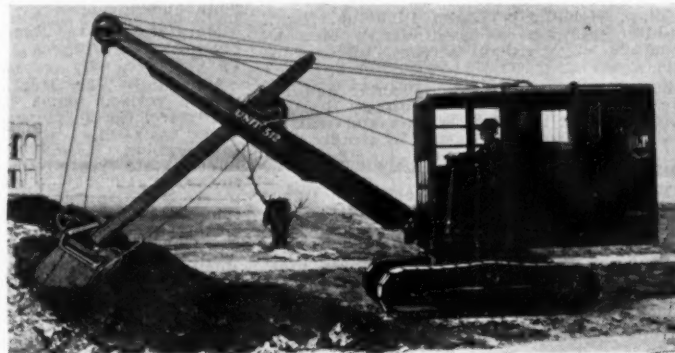
machined parts and accurate balancing make it practically noiseless. This model comes complete with interchangeable caps for round or fan spray, two air filters, three seamless containers, 25 feet of electric cord, 25 feet of air hose.

Universal Power Shovel

A feature of a new power shovel designed by the Universal Power Shovel Company, Milwaukee, Wis., a division of the Unit Corporation of America, is a one-piece gear case enclosing all operating mechanism and permitting its operation in an oil bath. Another feature of the machine, known as Unit 512, is a disc clutch so constructed that it may be adjusted at a single point without the aid of a wrench and having a facing guaranteed for a year. Gears are drop-forged, double heat-treated, with bores ground true to center, while the shafting is splined and full floating, thus equalizing the torque loads. Misalignment is further prevented by the unit mounting of the transmission case and the power plant on the one-piece turntable to form virtually an integral

unit. Every control is within easy reach of the operator and clutches may be operated by the pull of a finger. The machine is mechanically designed for speed and the turntable is mounted on rollers equipped with roller bearings. A positive independent forward and reverse crowd, the result of a special crowd line hook-up, assures complete control of the dipper stock, the design causing the weight of the boom to act as a shock absorber. The unit is powered by a Waukesha VK motor with governor. Bore $4\frac{1}{4}$ inches, stroke 5 inches, 1400 R. P. M. developing 48 H. P. Equipment includes air cleaner, American Bosch magnets and pusher type fan to ventilate the cab. The powerful, independent rope crowd is fast and light. The machine is easily and quickly converted to clamshell, dragline, trencher, crane or backfiller.

Transmission
Is
Enclosed
in a
Continuous
Bath of
Oil



CONSTRUCTION DEPARTMENT

and

NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Ark., North Little Rock, Little Rock—City plans raising \$50,000 as its share of expenditures necessary for constructing Little Rock-North Little Rock Airport; City of Little Rock plans expending \$200,000. 6-5

D. C., Washington—See Telephone Systems.

D. C., Washington—U. S. Dept. of Commerce, Aeronautics Branch, reports following cities plan airports; Raiford, Fla.; Gainesville, Greensboro and Valdosta, Ga.; Bowling Green, Louisville, Ky.; Big Spring, San Angelo, Charlotte and Falfurrias, Tex.

Ga., Brunswick—Comms. of Roads and Revenues of Glynn County authorized purchase of site for airport for City and Glynn County.

Louisiana — Wedell-Williams Air Service, Inc., New Orleans, let contract to Arch Construction Co. of Louisiana, 2126 Poland St., New Orleans for hangar at airport, Jefferson Parish; 100x100 ft., 20-ft. lean-to, steel, corrugated galv. iron with all-steel windows, skylights and doors, electrically welded throughout, telescoping doors on each end affording clear space 100 x 18 ft., monitor type ventilator extending full length of hangar, searchlight platform with steel ladders on each end.

La., Shreveport — City Comsn. extended date of bids until June 24 for proposed buildings at airport; project to be divided into 5 contracts as follows: (1) Administration building, 3 stories, with tower 20 ft. square, approx. 65 ft. high, semi-fire proof with hollow tile and face brick walls, floors of rein. conc. on steel bar joists, 3-ply comp. roof on conc. deck; (2) hangar and machine shop building, standard all steel and sheet metal, excepting shop wing, which will be of common brick fire walls plastered, hangar 100x100 ft. with doors on 2 sides, and 20x80-ft. lean-to housing shop and offices; (3) wire fence of standard copper mesh with 3-strand barbed wire guard on top, to be finished 5 ft. high; (4) exterior conc. work, including all conc. sidewalks, aprons and gutters; (5) lighting, including necessary wiring and fixtures required for government rating; plans complete; Jones, Roessle, Olschner & Weiner, Architects, Ardis Bldg., will act as superintendents of construction; Airports Engineering & Construction Corp., Div. of Southern Air Transport, Inc., Fort Worth Natl. Bank Bldg., Fort Worth, Tex., Designing Archt. 5-29

Miss., Meridian — John Pinkston, Supt., Public Buildings, selected Frank Fort as architect of Meridian Airport, under construction. 5-1

Mo., Springfield—Harold Pranter and associates start clearing Walter McCanse property near Table Rock dam and will install equipment for airport; will comply with U. S. Dept. of Commerce specifications; field to be x-shaped, 2 runways 500x1500 ft.

Mo., St. Joseph—Walter Barling, designer of new type Barling plane, cabin type, establishing plant adjacent to Rosecrans Field; new company to raise \$100,000 and city provide 10 acres and building 75x300 ft., costing \$35,000.

N. C., High Point—Chamber of Commerce, W. B. McEwen, Pres., interested in establishing class A municipal airport.

Okla., Ponca City—Clark Airplane Corp., capital \$50,000, incorporated; Charles D. Reed; build airplanes.

Tenn., Memphis—New Bry's Airport, H. T. Dawkins, Mgr., 1762 Tutwiler St., plans expending \$25,000 improving airport.

Tex., Mineral Wells—Mineral Wells Land Co., L. E. Seaman, Pres., acquired 136 acres, to be turned over to Airport Committee, Chamber of Commerce, for airport.

Va., Norfolk—I. Walke Truxton, City Mgr., recommending City Council to lease 185 acres, known as Industrial Center, to be leased to Whaley Aircraft & Engineering Corp., headed by Edward A. Whaley, for operation as municipal airport; sum not exceeding \$15,000 to be expended by city in for improving land.

Bridges, Culverts and Viaducts

Proposed Construction

Arkansas—State Highway Comsn., receives bids for 19 bridges and culverts. See Roads, Streets, Paving.

Georgia—State Highway Bd. receives bids for 2 bridges. See Roads, Streets, Paving.

Ga., La Fayette—See Roads, Streets, Paving.

Ky., Lexington—City Comms., W. C. Wilson, Commr. and Cincinnati, New Orleans and Texas & Pacific Ry. Co., B. Herman, Ch. Engr., Washington, D. C., receives bids June 21 for \$186,000 rein. conc. viaduct and approaches on West High St., Robertson to Pine; Lacey Moore, Res. Engr., for railroad; J. White Guyan, City Engr. 5-13

La., Bastrop — Morehouse Parish Police Jury, J. W. Brodnax, Pres., receives bids July 1 for 4 bridges: 627-ft. Cory's Bluff Bridge, 4 mi. west of Bonita; 576-ft. Knox Ferry Bridge, 4 mi. northwest of Gallion; 559-ft. Bonner's Ferry Bridge, 4 mi. northwest of Bastrop; 627-ft. Parker's Ferry Bridge, 3 mi. northwest of Bastrop; consisting of creosoted timber approaches and 100-ft. steel span through truss; 16-ft. roadway with creosoted timber floor joists; J. Lester White, Parish Engr.

La., Shreveport—War Dept., Washington, approved revised plans Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Dallas, for bridge over Cross Bayou, north of Shreveport; revised plans provide 3 piers permanently on conc. pile foundation instead of original plan for pile piers; clearances remain unchanged. 9-5

Maryland—State Roads Comsn. receives bids for 2 bridges. See Roads, Streets, Paving.

Maryland—War Dept., Washington, approved revised plans, State Roads Comsn., Baltimore, for 2 bridges: Across Nanticoke River at Vienna; across Kent Island Narrows, about 1/2 mi. from Chester River, under state law, replace present bridge; revised plans provide west fender of bridge to be in alignment with west pier of railroad bridge, and increase of 1 ft. in under clearance of span.

Miss., Belzoni—Comms. of Main Separate Road Dist., of Suprs. Dist. No. 4, Humphreys County, A. R. Hutchens, Clk., receive bids July 7 for waterway structures: 100-ft. creosoted timber bridge, 24 ft. wide; 80-ft. rein. conc. culvert; about 48 pipe endwalls.

Miss., Natchez—Adams County Bd. of Suprs., John Junkin, Pres., considering bridge over St. Catherine Creek on lower Woodville road; Walter Babbitt to prepare plans.

Oklahoma—See Roads, Streets, Paving.

Oklahoma—State Highway Comsn., received low bids for several bridges. See Roads, Streets, Paving.

Okla., Tulsa—City, Dan W. Patton, Mayor, and Frisco R. R. Co., F. G. Jonah, Ch. Engr., St. Louis, Mo., preparing plans for 700-ft. long, and 58-ft. wide Main St. viaduct, cost \$200,000; K. R. Teis, City Engr.

Tenn., Memphis—City, D. C. Miller, Clk., and Union R. R., R. M. Dozier, Pres., contemplate conc. viaduct over R. R. tracks on Summer Ave., cost about \$350,000.

Tex., Austin — City, Adam R. Johnson, Mgr., receives bids June 19 for rein. conc. arch bridge across Waller Creek at Second and Red River St.; 70 ft. overall length, 50-ft. span; 2 conc. abutments and wingwalls; 2,420 cu. yd. excavation, 115,700 lb. rein. steel; H. R. F. Helland, Conslt. Engr. 5-15

Tex., Childress—Childress County, W. B. Howard, Judge, plans steel and conc. underpass under Fort Worth & Denver Ry., and grading, draining for approaches, on .754 mi. Highway No. 4, from end of State Aid Project No. 854-A to intersection with Federal Aid Project No. 438-I, estimated cost \$42,000; S. D. Bacon, Res. Engr.

Tex., Corpus Christi—Nueces County, F. A. Tompkins, County Auditor, receives bids June 27 for 1,700 ft. creosoted timber trestles; Calvin E. Cocke, County Engr.; Nat Benton, County Judge.

Tex., Dallas — Dallas County Comms. Court, Charles E. Gross, County Auditor, receive bids June 16 for 1,800-ft. rein. conc. pile trestle bridge, 24-ft. clear roadway, 100-ft. steel span on conc. piers, across new channel on Irving-Fort Worth road, from east levee of City-County Levee Improvement Dist. to hill on west; Rollins & Clinger, Dist. Engrs.

Virginia—See Roads, Streets, Paving.

Tex., Runge — Karnes County, Thos. B. Smiley, Judge, Karnes City, plans steel and conc. underpass, across San Antonio and Arkansas Pass Ry. at Runge; Jas. V. Curnutte, Res. Engr.

Texas — State Highway Comsn., receives bids for 3 bridges. See Roads, Streets, Paving.

West Virginia—State Road Comsn., L. L. Jemison, Bridge Engr., Charleston, advises, War Dept., Washington, approved plans for bridge across South Fork of Hughes River; unable to state when contract will be let. 5-1

West Virginia—State Bridge Comsn., A. C. Kimpel, Sec., Charleston, plans constructing St. Albans and Point Pleasant-Henderson bridges, and purchasing toll bridge at Cabin Creek; will sell bonds.

Contracts Awarded

Tenn., Knoxville—Knox County Comms. let contract to George H. Walters, Knoxville, at \$8,273, for 12 bridges and culverts in Knox County. 5-8

Tex., Fort Worth—Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Dallas, let contract to H. K. McCollum, Fort Worth National Bank Bldg., for underpass at Henderson St. under T. & P. and Frisco tracks; awaiting approval of contract by City, O. E. Carr, Mgr., and Frisco Ry., F. G. Jonah, Ch. Engr., St. Louis, Mo. 5-22

Tex., Port Arthur—City, J. C. Hamilton, Clk., let contract to Southwest L. E. Myers Co., American Exchange Bank Bldg., Dallas, at \$247,000 for Pleasure Pier Bridge; Scherzer Rolling Lift Bridge Co., 53 Jackson Blvd., Chicago, prepared plans; W. O. Bower, City Engr. 5-22

W. Va., Cunningham — Pittsburgh - Des Moines Steel Co., Pittsburgh, Pa., reported, has contract for 150 tons fabricated struct. steel, for highway bridge at Cunningham.

Canning and Packing Plants

Fla., Arcadia — American Fruit Growers, Inc., Avon Park, reported, improving packing plant, recently acquired.

Fla., Avon Park—Latt Maxey, reported, soon let contract for packing house, capacity 6 cars daily; equip with modern machinery.

Fla., Avon Park—American Fruit Growers, reported, let contract to York Construction Co., Odd Fellows Bldg., Raleigh, N. C., for all steel, fireproof packing house Pleasant St. and Central Ave.; 175x120 ft.; conc. basement; cost \$50,000. 5-1

Tex., Mercedes—John Apperson, reported, construct citrus packing plant.

Tex., Nacogdoches—Chamber of Commerce, reported, negotiating for canning plant.

Clayworking Plants

Tex., Fort Worth—Southwest Ceramic Products Corp., Christian Fridericksen, Pres., Independence, Mo., reported, acquired Fort Worth Tile & Pottery Co., N. Hampton and Garvey Sts.; will expend \$250,000 for improvements, including equipment for manufacturing terra cotta, mantel and bathroom fixtures and stoneware.

Coal Mines and Coke Ovens

Ky., Ashland—Ashland By-Product Coke Co., subsidiary Allied Chemical & Dye Co., 61 Broadway, New York, acquired 21 acres river front property; reported, extend plant.

Ky., Madisonville — Newcoal Corp. being formed with B. F. Weber, Pres., 6214 N. Clark St., Chicago, Ill.; W. I. Currington, Mgr., to develop 100 acres. See Want Section—Machinery and Supplies. 6-5

West Virginia—Pocahontas Fuel Co., Inc., W. A. Bishop, Ch. Engr., Pocahontas, Va., erect 5000-ton, twin type tippie near Crockett's Cove, to be completed in fall, on Line to Norfolk & Western Ry., under construction.

W. Va., Piedmont—Deep Run Smokeless Coal Co., capital \$385,000, incorporated; Robert Grant, Sr., Cumberland, Md.; C. H. Lanz, Piedmont, W. Va.

Cotton Compresses and Gins

Miss., Greenville—Delta Compress, incorporated; J. A. Lake, Jr., W. T. Wynn; install compress, capacity 30,000 bales, in Mengers Motor Co.'s building; will remodel install sprinkler system; high density press, etc.

Okla., Woodward—Chamber of Commerce, reported, negotiating with capitalists for cotton gin.

Tex., Georgetown—E. L. Hardin, reported, rebuilding burned cotton gin.

Cottonseed-Oil Mills

Miss., Indianola — Sunflower Cotton Oil Mill, rebuilding burned mill; 3 story; fireproof; cost \$300,000. 11-30

Drainage, Dredging and Irrigation

Louisiana—Bd. of State Engrs., New Court Bldg., let contracts as follows: Louis P. Davis, Gretna, 26 cents per cu. yd., Atchafalaya Basin Levee Dist., drainage of borrow pits and restoring wave wash, Atchafalaya and Mississippi Rivers, approx. 45,000 cu. yd. draining pits, 15,000 cu. yd. restoring wave wash; Lafourche Basin Levee Dist., drainage of borrow pits and restoring wave wash, Mississippi River, Donaldsonville to Raceland, 40,000 cu. yd. draining pits, 20,000 cu. yd. restoring wave wash; Wilton Cambré, St. Gabriel, for draining borrow pits, Mississippi River, Baton Rouge to New Orleans, approx. 50,000 cu. yd., at 25 cents.

La., Crowley—Acadia Parish Sub-Drainage Dist. No. 2 votes June 16 on \$90,000, for drainage improvements.

Maryland—U. S. Engr. Office, Wilmington, Del., open bids July 3 for dredging approx. 120,000 cu. yd. material in Inland Waterway, Delaware River to Chesapeake Bay, Del. and Md. (Chesapeake and Delaware Canal).

Miss., Clarksdale—Coahoma County Bd. of Supervisors voted \$60,000 bonds for Coahoma Drainage Dist.

North Carolina—U. S. Engr. Office, Norfolk, Va., has low bid from Arundel Corp., Pier 2, Pratt St., Baltimore, Md., at 10.4 per cu. yd., for dredging 1,919,639 cu. yd. in Alligator River, Alligator River-Pungo River Land Cut, Wilkerson Creek and Pungo River, in dredged channel of Inland Waterway, Norfolk, Va., to Beaufort Inlet, N. C. 4-24

Tex., Brownsville—See Miscellaneous Construction.

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Alabama—Alabama Power Co., Birmingham, purchased Southern Cities Power Co.'s properties in Jackson County; power lines and distribution system parallel Southern Railway from Larkinsville to Stevenson; feed line into Stevenson from Northwest out of Sherwood, Tenn.; line from Stevenson parallels N. C. & St. L. R. R. to Bridgeport; another feed line taps Stevenson-Bridgeport line out of Orne, Tenn.; 9 substations with total capacity of 2,987 kv-a were also purchased; 4 incorporated towns and 3 communities with connecting highways are served by this system, including Bridgeport, Stevenson, Mt. Carmel, Hollywood, Scottsboro, Fachler, Larkinsville; Alabama Power Co. will build a 44,000 volt line from Gurley to Scottsboro connecting above communities with its transmission net work; construction completed latter part of year. 5-29

Alabama—Alabama Power Co., Birmingham, reported, applied to Public Service Comsn., Montgomery, for permission to construct 35 mile electric transmission line from near Chickasaw in Mobile County north to near Mt. Vernon and west to Citronelle; hearing July 7.

Arkansas—White River Power Co., H. C. Couch, Pres., Pine Bluff, applied to Federal Power Comsn., Washington, for authority to const. 3 dams in Arkansas for hydro electric development, generate 400,000 h. p.; largest of dams to be on White River, one on Buffalo River and other on north fork of White River; estimated cost \$47,370,000; largest dam will create lake on White River 85 miles long, area of 65 sq. miles; North Fork dam, create lake 35 miles long, area 6000 acres; White River development dam will be approximately 1/4 mile long, 225 ft. high; initial construction will involve dam 125 ft. high; installed capacity of 66,000 h. p.; North Fork development, will cost \$13,000,000 and Buffalo River development, \$6,260,000; transmission lines, substations and distribution systems not included in estimated cost of project; White River Power Co., organized by Walker Powell, and Ozark Electric Co., organized by Mr. Couch; work on project to begin as soon as license is granted; Phoenix Utility Co., Engrs., 2 Rector St., New York.

Georgia—Georgia Power Co., Atlanta, reported, acquired Baker County Power Co., Camilla, serving 5 counties in Southwest Georgia, providing service in Arlington, Damascus, Edison, Funston, Leary, Morgan, Park, Camilla, Newton, etc.; properties acquired include 2000 kv-a hydro electric plant at Newton; steam plants at Edison, and Arlington; Diesel plants at Montrie and Blakely and water plants at Arlington, Edison and Norman Park. 6-5

Mo., Campbell—City let contract for distribution system to Willoughby Construction Co., of North Carolina; to W. D. Beasley and Ad McBridge, Campbell, for building; Fairbanks, Morse & Co., St. Louis, and Chicago, for installation of equipment; cost \$70,000. 6-5

Mo., St. Louis—G. L. Tarlton, 411 N. 7th St., has contract at \$61,000 for installing light standards on several West End streets.

N. C., Hickory—Southern Power Co., Charlotte, reported, begun survey for power line into Jacobs Fork. 4-10

Oklahoma—Middle West Utilities Co., 20 N. Wacker Drive, Chicago, Ill., will issue \$50,000,000 short term convertible notes through Halsey, Stuart & Co., Inc., Chicago, Ill.; proceeds to be used in development of subsidiary companies and for general corporate purposes. 3-20

Okla., El Reno—City, reported, rejected application of Oklahoma Gas & Electric Co., Oklahoma City, and El Reno Independent Light & Power Co., for 25 yr. franchise. 2-20

Tenn., Chattanooga—State Railroad and Public Utilities Comsn., Nashville, reported, granted permission to Tennessee Electric Power Co. to construct transmission lines along public highways in Carroll County; also approved transfer of franchise of Tennessee Water Co. in Cowan and South Pittsburgh.

Tenn., Jamestown — State Railroad and Public Utilities Comsn., Nashville, approved sale of electric light plant to Ross Bros.

Tex., West University Place, Houston — City, reported, closed contract with Houston Lighting & Power Co., Houston, for installation street lighting system in 14 residential subdivisions.

Va., Portsmouth — City, reported plans electrifying water works pumping station at Suffolk and modernize white way in High St., Portsmouth.

Flour, Feed and Meal Mills

Mo., Kansas City—Farmers National Grain Corp., Fisher Bldg., Chicago, Ill., acquired Hall Baker Grain Co., Board of Trade Bldg.; will operate as Southwest Branch agency; no improvements contemplated at this time.

Tex., Brenham—Brenham Feed Co., incorporated; J. M. Bryan, W. O. Schulte.

Tex., Dallas—Southern Grain Co., Inc., chartered; O. B. Kennedy, 448 Yarmouth St.

Tex., Denton — Alliance Milling Co., reported, reorganized with E. G. Rall, Pres., Fort Worth will increase output.

Foundry and Machine Plants

Md., Baltimore—A. J. Sackett & Sons Co., Eastbourne and Highland Ave., fertilizer machinery manufacturer, let contract to Maryland Steel Products Co., Standard Oil Bldg., for shop, 3491 Eastbourne Ave.; steel frame; plans by contractor.

Mo., Kansas City, Kansas City—Western Laundry Equipment Co., capital \$100,000, incorporated; E. C. Winters, 907 Midland Bldg.

Garages and Filling Stations

Ala., Gadsden—C. A. East, Rock Springs, completing plans for garage and showroom; 1 story, 100x225 ft., brick, steel, built-up steel truss roof; Paul Hoffert, Archt.

Fla., New Smyrna—Gulf Refining Company, Frick Annex, Pittsburgh, Pa., started erecting \$25,000 filling station, Canal and Faulkner St.; part of \$75,000 building program planned for city.

Ga., Savannah—Goodrich Silvertown, Inc., subsidiary B. F. Goodrich Rubber Co., Akron, Ohio, has permit for drive-in service station, Drayton St. and Oglethorpe Ave.; \$25,000; W. J. Kehoe, Local Mgr., Drayton St. and York Lane.

Ky., Louisville — Shell Petroleum Corp., Shell Bldg., St. Louis, Mo., reported, plans expending \$1,500,000 to \$2,000,000 establishing 100 service stations here; plans installing number of stations within 4 months, 8 months to be required for entire program.

Ky., Morganfield—Tide Water Oil Co., M. N. Boston, Pres., Marion, receiving bids, no date set for closing, on service station and salesroom; 1 story, brick, conc., comp. roof, conc. floors, plate and D. S. A. glass, steel sash, metal store front; Jacob S. Cutchan, Archt., Furniture Bldg., Evansville, Ind.

La., Monroe—Louisiana Wrecking House, C. W. Bell, Mgr., 700 Coleman Ave., W. Monroe, started erecting \$10,000 auto accessories salesroom and filling station building, Jonesboro Rd.

Miss., Clarksdale—King & Anderson let contract to Ray Strode for garage and store room building, Issaquena Ave.; 50x140 ft., brick, tile, steel; Buick Automobile Co., Lessee, subsidiary of General Motors Corp., Detroit, Mich.

Miss., Natchez—The Texas Co., San Jacinto St., Houston, Tex., acquired Botto Bldg., Main and Wall St. probably erect service station.

Mo., Kansas City—Dial Walsh Motor Co., 2222 McGee St., Edward F. Walsh, Pres., changing name to Walsh Motors, Inc.

Mo. Kansas City—Douglas Sloan Motor Co., capital \$15,000, incorporated; Richard G. Warner, 15 E. Winthrop Road.

N. C., Graham—Dixie Grinding Co., incorporated; D. S. Meyers, Sam T. Johnston; motor vehicles.

N. C., Plymouth—Woodley Motor Corp., capital \$50,000, incorporated; E. S. Woodley, Creswell; Thos. D. Woodley, Plymouth.

Okla., Tulsa—Specification Motor Oil System, Memphis, Tenn., started erecting filling station.

Tenn., Old Hickory—Old Hickory Motor Co., incorporated; Eugene P. Johnson, Frank S. Owens.

Texas—Cities Service Oil Co., Bartlesville, Okla., J. W. Pigg, Representative, Harlingen, establish filling stations in Harlingen, Weslaco, McAllen and Edinburg, main supply station to be at Harlingen.

Tex., Edinburg—Gulf Refining Co., Frick Annex, Pittsburgh, Pa., erecting large filling station.

Tex., Kenedy—Humble Oil & Refining Co., F. A. Watts, Construction Supt., Humble Bldg., Houston, let contract to Jack Horne, Travis Bldg., San Antonio, for filling station; 1 story, brick, rein. conc.

Tex., Midland—Automotive, Inc., capital \$10,000, chartered; N. R. Garza, A. S. Legg.

Tex., Victoria—Humble Oil & Refining Co., F. A. Watts, Construction Supt., Humble Bldg., Houston, let contract to Ed. Wagner, Victoria, for filling station; 1 story, brick, rein. conc. 4-24

Tex., Yoakum—Humble Oil & Refining Co., F. A. Watts, Construction Supt., Humble Bldg., Houston, let contract to F. O. Crawford, Yoakum, for filling station; 1 story, brick, rein. conc.

Va., Bedford—Standard Oil Co., 26 Broadway, New York, acquired site for filling station.

Va., Norfolk—Rentschler Tire Store, Inc., J. L. Mulford, Pres., changing name to Firestone Service Stores of Norfolk, Inc.

W. Va., Montgomery—Brown Chevrolet Co., capital \$50,000, incorporated; G. D. Brown, W. C. McIntyre.

Gas and Oil Enterprises

Ark., Paris—R. O. Moore, Tulsa, Okla., reported, has contract for laying 17 mile pipe line for River Valley Pipe Line Co.; will lay 6-in. mains from Etina to Caulksville, from Caulksville to Paris, 4-in. pipe; will also lay 30 mile network in city; pipe gas into Branch, Ratcliff, Sublaco and Caulksville.

Ga., Macon—Macon Gas Co., reported, plans expending \$400,000 for improvements to system; lay 18-in. line in business district and 16-in. line in industrial district. 12-5

Ky., Lohr—Standard Oil Co. will rebuild burned storage plant.

Ky., Louisville—Gulf Refining Co., Seventh St. Road, Port Arthur, Tex., reported, plans expending \$400,000 for river terminal along Gibson's Lane, 55 acre site; contemplated improvements include 25,000 bbl. storage tanks, docks, loading racks and pumping station; will ship products from oil fields at Port Arthur, Tex., to New Orleans, La., to Mississippi and Louisville; work will begin in 60 days.

Mo., Avondale—Western Discount Oil & Gas Corp., incorporated; Frank W. Steens-try, Dwight S. Skinner.

Mo., Bowling Green—Pike County Oil Co., J. A. Middleton, Sec., will erect bulk plant; contract for equipment let to Leader Iron Works. 6-5

Mo., Holden—City, reported, granted gas franchise to Interstate Gas & Electric Co., 39 S. LaSalle St., Chicago, Ill.

North Carolina—Albert E. Pierce Co., 105 W. Adams St., Chicago, Ill., reported, acquired all common stock holdings of Atlantic Gas Co., Lewis Bldg., Philadelphia, Pa., owning and operating plants of North Carolina Gas Co. at Thomasville and other points in state.

N. C., Roxboro—Person Oil Co., capital \$25,000, incorporated; B. F. Wade, P. T. Whitt.

Oklahoma—Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., has contract from Texas-Empire Co., Bartlesville, for 20 synchronous motors and control equipment to drive pumps in booster stations to be installed on existing oil pipe line between Sands Springs, Okla., and Chicago, Ill.; 18 motors each rated 800 h. p., 1800 r. p. m. will be installed in 6 stations; 3 units in each station, 1 unit being a spare; motors will drive centrifugal pumps; 1 station will consist of 2 triplex pumps driven by 450 h. p. 450 r. p. m. synchronous motors. 4-10

Oklahoma—Youngstown Sheet & Tube Co., Youngstown, O., reported, has contract for pipe for 400 mile line of Ajax Pipe Line Co., extending from Glenn pool in Oklahoma to St. Louis, Mo.; 10-in. pipe; capacity 65,000 bbls. crude oil daily; company is under control of Standard Oil Co. of New Jersey, 26 Broadway, New York.

Okla., Guthrie—See Water Works.

Okla., Oklahoma City—C & C Drilling Co., capital \$24,000, incorporated; N. O. Carter, 2601 West 12th St.

Okla., Oklahoma City—Emilyparde Oil Co., incorporated; Harry C. Trentman, 1212 S. Adams St., Fort Worth, Tex.

Okla., Oklahoma City—Oklahoma Eastern Utility Co., organized; S. R. Morgan, Rector Bldg., Little Rock, Ark.; construct gas line from Oklahoma City field.

Okla., Ponca City—Continental Oil Co., advises that report company is to be merged with any other concern is without foundation. 5-29

Tenn., Chattanooga—Fentress Oil & Gas Co., capital \$500,000, incorporated; Hayes Brummett, 502 Houston St.

Tenn., Fountain City, Knoxville—State Utilities Comsn., Nashville, reported, granted permission to Knoxville Gas Co., Knoxville, to extend lines to here.

Texas—Continental Construction Co., Floyd C. Brown, V. P. and Gen. Mgr., Urofessional Bldg., Kansas City, Mo., is in charge of construction work on natural gas line for Central States Natural Gas Co. from Texas to Chicago. 6-5

Texas—Woodley Petroleum Co., J. R. Parten, Pres., City Bank Bldg., Shreveport, La., reported, acquired Monray Oil Co., with 118 oil wells in Callahan County, also acquired 300 acres in Throckmorton county.

Texas—Phillips Pipe Line Co., subsidiary of Phillips Petroleum Corp., Bartlesville, Okla., reported, completed surveys, right of way obtained and actual laying of pipe will commence at once on \$15,000,000 oil products pipe line, 800 miles long, from Borger, Tex., through Oklahoma and Kansas to Wichita, then to Kansas City, Mo., and directly across state of Missouri via Jefferson City to St. Louis; from terminal in Illinois gasoline will be shipped by tank car to marketing division in Illinois, Indiana and other central states as well as to lake ports for transshipment to Canada; pipe for line amounting to approximately 50,000 tons 8-in. will be supplied by Republic Steel Corp., Youngstown, O., from plant in Ohio, and will consist of approximately 100,000,000 lbs., which will be 8-in. fusion weld fully concealed including sections at river crossings; pipe covering will be between 24-in. and 36-in.; 10 pump stations, equipped with either electric motor driven centrifugal pumps or Diesel type engines; establish distributing terminals at Wichita, Kansas City and St. Louis; terminal facilities at Kansas City have been designed to permit extension of line North and East; facilities at St. Louis include dockage on river to permit barging gasoline to Minneapolis and St. Paul; St. Louis dockage permits water transportation to Memphis and New Orleans via Ohio River to Louisville, Cincinnati and Pittsburgh; bulk stations will be placed approximately 50 miles apart for entire length of line; line has been designed as closed system and will be divided into 22-mile sections; telephone line requiring 1,300,000 lbs. copper and 25,000 poles will parallel entire system; interconnected with 10 pump stations. 6-5

Texas—Missouri-Kansas Pipe Line Co., 820 Dwight Bldg., Kansas City, Mo., reported, let contract to Cooper-Bessmer Corp., 200 Thomas Ave., Mt. Vernon, O., for initial order covering engine compressor equipment for \$40,000,000 natural gas pipe line, Texas Panhandle to Kentucky, Missouri, etc.; first contract amounts to \$1,000,000 and includes 20,000 h. p. of compressors; Cooper-Bessmer Corp., also has \$1,200,000 contract for 900 mile pipe line of Lone Star Gas Co., Dallas, for pipe line Texas Panhandle to Lincoln, Neb. 6-5

Texas—Youngstown Sheet & Tube Co., Youngstown, O., and A. O. Smith Co., Milwaukee, Wis., reported, have contract for major part of pipe tonnage required for 1,000 mile pipe line from Texas natural gas fields to Chicago, Ill., Detroit, Mich. and other cities, about 300,000 tons; double line of pipe will be laid for entire distance, 1 tube 24-in. in diam. and other ranging from 16-in. to 8-in.; lines are being built by group of companies, including Standard Oil Co. of New Jersey, 26 Broadway, New York; Insubl, Son & Co., Inc., 20 Wacker Drive, Chicago, Ill.; Columbian Carbon Co., Charleston, W. Va.; Phillips Petroleum Co., Bartlesville, Okla., and Skelly Oil Co., Skelly Bldg., Tulsa, Okla., 6-5

Tex., Corpus Christi—South Texas Production Co., reported, acquired holdings of Agua Dulce Oil & Gas Co. in Agua Dulce field.

Tex., Fort Worth—City, reported, considering proposition of Arthur M. Lampert Corp., 44 Pine St., New York, to supply gas through pipe line to be built from here to Amarillo field.

Tex., Houston—Houston Pipe Line Co., E. H. Buckner, Pres., Petroleum Bldg., reported, increasing carrying capacity of natural gas pipe line; laying 25½ mile auxiliary line from Refugio to Fannia where it will tie in with both 18-in. main line and 12-in. auxiliary loop recently completed; MacPherson Construction Co., Magnolia Bldg., Dallas, Contr.; also has under construction line from Midfield south through Blessing and Palacios, 16 miles long, work by company's forces. 3-13

Tex., San Antonio—Moody-Seagraves-Morgan Co., incorporated; W. L. Moody, 107 Essex St.; operating in Pettus Bee County and Refugio fields; acquired holdings of Wm. F. Morgan, 202 Mary Louise St., including pipe line from field to gulf coast.

Texas—United Gas Corp., natural gas subsidiary of Electric Power & Light Corp., filed amendment to certificate of incorporation increasing authorized capitalization and declared operative plan under which it is acquiring securities of United Gas Co. and of certain of its subsidiaries, of Louisiana Gas & Fuel Co., and of Palmer Corp. of Louisiana; approval of plan consolidates ownership and operation of extensive natural gas system in Texas and Louisiana, developed by Moody-Seagraves and G. E. Barrett & Co. interests with natural gas properties of Electric Power & Light Corp. and brings into group Texas and Louisiana natural gas system formerly owned by Magnolia Gas Co., subsidiary of Standard Oil Co. of New York; United Gas Corp., has authorized capitalization of 22,000,000 shares without par value, consisting of 1,000,000 shares of preferred stock, issuable in series, 1,000,000 shares of \$7 second preferred stock and 20,000,000 shares of common stock; S. Z. Mitchell, Chmn. of Bd.; Ralph B. Gagin, Pres.; properties will be operated under supervision of Electric Bond & Share Co., 2 Rector St., New York; under plan United Gas Corp., has acquired 100% of securities of Louisiana Gas & Fuel Co., more than 92% of common stock, 85% of preferred stock and 100% of option warrants of United Gas Co. and substantial percentage of underlying companies which were subject to deposit; this gives United Gas Corp., ownership, direct or through subsidiaries of approximately following percentages of outstanding common stocks of following principal subsidiaries of United Gas Co.; Houston Gulf Gas Co. 94%, Dixie Gulf Gas Co., 97%, Southern Gas Co., 99%, Southern Gas Utilities, Inc., 99%, South Texas Gas Co., 99%, and Dixie Gas and Utilities Co., 81%; in addition United Gas Corp., owns 100% of common stock of Louisiana Gas & Fuel Co., and directly or indirectly 100% of common stocks of latter's subsidiaries, including Palmer Corp. of Louisiana, Industrial Gas Co., Southern Gas & Fuel Co., Northern Louisiana Natural Gas Co., Ouachita Natural Gas Co., Excelsior Pipe Line Co., Pinola Oil & Gas Co., and Louisiana Gas Co. 3-6

Va., Norfolk—Columbia Gas & Electric Corp., 61 Broadway, New York, reported, submitted proposal to supply Norfolk Gas Co. with natural gas from Kentucky.

Va., Richmond—City, George H. Whitefield, Director, receives bids June 16 for boiler, accumulator and blower for Fulton Gas Works. See Want Section—Bids Asked.

Virginia—Washington Gas Light Co., 413 Tenth St., N. W., Washington, D. C., advises Rosslyn Gas Co., plans extension to mains in Arlington County, including Falls Church, Overlee Knolls, Lee Highway Bon Air, Alceva Heights, Aurora Hills, Virginia Highlands and Oak Crest; will lay about 28 miles of high pressure mains. 6-5

West Virginia—Inland Utilities, Inc., Edw. R. Berry, V. P., under direction of Midland Management, Inc., reported, plans development work on recently acquired acreage in West Virginia and Kentucky; will soon let contract for drilling 26 wells. 5-29

W. Va., Charleston—Stockholders of Union Carbon Co. vote in 30 days on increasing capital stock 400,000 to 800,000 shares.

Ice and Cold-Storage Plants

Tex., Del Rio—Central Power & Light Co., San Antonio, denies report that company erecting plant here. 6-5

Iron and Steel Plants

Mo., St. Louis—Superior Structural Steel Co., Wm. N. Brown, Pres., 5100 Farlin Ave., erect \$12,000 plant; 1 story, 70x140 ft., steel, conc. foundation, sheet metal roof; owner builds; private plans.

Land Development

Florida—Bimini Enterprises, Inc., reported, let contract to J. A. Ensley of Ensley Construction Co., 33 N. Second Ave., Miami, for \$500,000 development of South Bimini Island, 42 miles from Miami; work includes opening of harbor, improving docks and causeway, providing transportation facilities, etc.

Fla., Jacksonville—James W. Edmondson, Law Exchange, acquired tract of land with 1/4 mile water front on Troust River; develop citrus fruits.

Fla., Miami Beach—City, C. A. Renshaw, Mgr., reported, plans 5 yr. improvements to Flamingo Park; will receive bids for constructing bulkheads and groynes for ocean front protection from 33rd to 44th St. and for paving 1/2 block north and south of Lincoln Rd. avenues leading to that thoroughfare; cost \$248,000.

Fla., Milton—Stephen Lee, Engr., 316 W. Strong St., Pensacola, reported, making survey of 30,000 acres in Santa Rosa County, for colonization.

Ga., Brunswick—Consolidated Realty Co., S. K. Brown, Pres., develop Beach Drive subdivision St. Simons Island.

La., New Orleans—Dixie Realty Co., Inc., chartered; Jos M. Cortinas, 1819 Esplanade Ave.

La., New Orleans—Hundred Lakes Park, Inc., chartered; Wilfred Gehr, 5919 Frevet St.

La., New Orleans—Settlement Land Co., incorporated; Geo. C. Bright, Hibernia Bldg.

La., Shreveport—Leadman Realty Co., Inc., chartered; J. O. Thompson, 36 Kings Highway.

Fla., Tampa—Standard Groves Co., incorporated; J. Porter Tyner, Plant City.

Ky., Stanford — St. Asaph Improvement Co., capital \$25,000, incorporated; E. C. Walton, C. Hays Foster.

Md., Baltimore—City, Park Bd. acquired 750 acre Litter Louna tract in Baltimore County for future park development.

Miss., Jackson—City plans developing 100 acre park and golf course.

Mo., Fulton—Fulton Plaza Realty Co., capital \$40,000, incorporated; J. W. Gallaher, Mexico; Marion McLain, Fulton.

Mo., Independence—Central Development Assn., Inc., capital \$50,000, incorporated; F. M. McDowell, J. A. Becker.

Mo., Independence—Brown-Alling Corp., capital \$100,000, incorporated; I. B. Alling, Detroit, Mich.

Mo., Kansas City—Tiny Tim Golf Co., incorporated; Valentine E. Mott, 3412 Bellefontaine St.

N. C., Durham—Realty Associates, Inc., chartered; B. M. Watkins, Geer Bldg.

N. C., Raleigh—Carolina Real Estate Co., capital \$200,000, incorporated; W. B. Drake, Jr., 2025 Fairview Road.

Okla., Nichols Hill, Oklahoma City—See Sewer Construction.

Okla., Oklahoma City — City, reported, plans expending \$351,000 for park improvements, including installation of playground equipment, construction of swimming pool and bath house Lincoln Park, golf course, etc.

Tenn., Franklin—Midland Development Co., capital \$30,000, incorporated; John S. Bransford, Stutson Smith.

Tex., Amarillo—Walter Sikes, Inc., chartered; Walter Sikes, 1404 Washington St.; construct golf course.

Tex., Beaumont — Cemetery Development Co., capital \$32,000, incorporated; H. B. Oxford, Beaumont-Houston Highway; L. H. Brown.

Tex., Brownsville—Fort Isabel Realty Co., incorporated; G. R. Tyrrell, P. B. Lowrance.

Tex., Fort Worth—Kimball Bend Pecans, Inc., capital \$150,000, incorporated; F. J. Bates, 2108 Western St.

Tex., Harlingen—W. H. Follette & Co., Inc., capital \$20,000, chartered; W. H. Follette, A. H. Vayo.

Tex., Harlingen—A. Tamm, Harlingen, reported, retained as engineer for development 10,000 acres recently acquired by E. C. Bacon; will construct about 40 miles of conc. canals; with main canal 22 miles long, smaller canals will be underground conc. pipe with pressure system of irrigating. 6-5

Tex., New Braunfels—City, reported, plans issuing \$195,000 bonds to purchase and improve 165 acres, Landa Park.

Tex., San Antonio — Richmond Avenue Properties, Inc., incorporated; Martin Wright, 104 Elsmere Ave., Carl D. Newton, 800 Almos Drive E.

Tex., San Antonio—Highland Park Community Center, Inc., chartered; Wm. Seipel, 1034 Arant St.

Va., Bristol—Bristol Airport Land Corp., capital \$15,000, incorporated; Frank L. Kilgore.

Va., Leesburg—Cromwell Realty Co., capital \$50,000, incorporated; Robert M. Cromwell.

Va., Norfolk—Virginia Beach Properties, Inc., capital \$50,000, incorporated; Max Gugenheimer, 1902 Grace St., Lynchburg.

Va., Norfolk—Graydon Realty Corp., incorporated; Hamilton Black.

Va., Petersburg—City, Mayor Wilson, develop athletic field, playground, etc. at Mt. Erin and Walnut Hill as George Cameron Memorial; plans by Allen J. Saville, Inc., Electric Bldg., Richmond.

Va., Roanoke—Clearview Corp., capital \$15,000, incorporated; Brooke Hunter.

Lumber Enterprises

Ark., Malvern—A. B. Cook Co. acquired all holdings of Wisconsin-Arkansas Lumber Co.

Ark., Warren—Anthony Southern Lumber Co., capital \$50,000, incorporated; Frank Anthony, O. C. Axley; acquired Grayson Lumber Co., Bradcow.

Fla., Brooksville—Phillip A. Ryan Lumber Co. acquired Brooksville Hardwood Mfg. Co.

Miss., Kolola Springs—Berthold & Jennings Lumber Co., Aliceville, Ala., moving here and changing name to Kolola Timber Co.

N. C., Asheboro—Asheboro Lumber Co., capital \$100,000, incorporated; W. R. Williams, C. W. Brower; acquired Asheboro Wheelbarrow Co., including buildings, machinery and real estate.

N. C., Mount Holly—Mount Holly Lumber Co., capital \$50,000, incorporated; H. A. Michael, B. C. Joes.

S. C., Hardeeville—Nevadun Lumber Co., capital \$20,000, incorporated; H. W. Phillips, L. N. Norfleet.

Va., Richmond—R. E. Richardson & Sons, Inc., capital \$150,000, chartered; J. L. Richardson, 2100 Westwood Ave.; lumber.

W. Va., Cowen—Howard-Herold Lumber Co., capital \$200,000, incorporated; Clarence D. Howard, Cowen; A. C. Herold, Suten.

Mining

Fla., Midway — Fullers Earth Co., 10616 Euclid Ave., Cleveland, Ohio, installing machinery and equipment costing \$30,000, to double present capacity of 100 tons daily.

Tenn., Nashville—Watauga Stone Co., incorporated; Howard Young, Pres.; Robert S. Campbell, V.-Pres., incorporated; will operate 2 plants in Carter County, crushed limestone quarry at Watauga and sand deposit at Slam; construction started on both plants; limestone quarry to be in operation July 1 and sand plant before Aug. 1; plants to employ about 100 and involve expenditure of \$150,000.

Tex., El Paso—Consumers Salt Co., H. A. Pitts, Pres., reported, develop 320-acre salt deposit.

Miscellaneous Construction

Arkansas — See Vicksburg, Miss.

Ark., Helena—Third Field Area Engineers, T. V. Pittman, Helena, let contract to W. A. Cammack, Little Rock, for 25,000 yd. revetment stone for use in third field area, involving approx. \$80,000.

Ark., Paragould—See Memphis, Tenn.

Florida—See Land Development.

Louisiana — See Drainage, Dredging and Irrigation.

Louisiana—See Vicksburg, Miss.

La., Monroe—City Comsn. and Ouachita Parish Police Jury interested in acquiring McGuire property, west of courthouse, provided federal government would erect suitable memorial to Fort Miro, costing about \$50,000.

La., New Orleans—Bd. of Levee Comms., A. L. Shusan, Pres., New Orleans Court Bldg., plans starting work on \$2,000,000 sea wall about July 1; Orleans Dredging Co., Canal Bank Bldg., Gen. Contr. 3-27

La., New Orleans—Bd. of Comms. of Port of New Orleans, New Orleans Court Bldg., opens bids June 17 for constructing conc. foundations on timber piling for proposed \$1,100,000 Bienville St. wharf; wharf to be 1240x120 ft.

Miss., Vicksburg—Ch. of Engrs., U. S. Army, Washington, D. C., authorized constructing 5,073,000 cu. yd. levee, Lower St. Francis, Upper Yazoo and White River Levee Districts; U. S. Engr. Office, Vicksburg, soon call for bids.

Miss., Vicksburg—U. S. Engr. Office, P. O. Box 667, has following low bids for approx. 10,400,000 cu. yd. levee work, Mississippi River, Mississippi, Arkansas and Louisiana, designated as follows by name, section, yardage, bidder, price bid: Catfish Point, Section 1, 468,000, W. T. Roach, North Memphis Savings Bank Bldg., Memphis, Tenn., \$0.397; Sec. 2, 510,000, Canal Construction Co., McCall Bldg., Memphis, Tenn., .56; Below Greenville New Levee, Sec. 1, 486,000, J. H. Boyce Sons Co. and Roy L. Igo, both Memphis, Tenn., .29; Sec. 2, Canal Construction Co., .37; Sec. 3, 504,000, J. H. Boyce Sons Co. and Roy L. Igo, .29; Sec. 4, 507,000, J. H. Boyce Sons Co. and Roy L. Igo, .29; Sec. 5, 533,000, J. H. Boyce Sons Co. and Roy L. Igo, .29; Sec. 6, 508,000, J. H. Boyce Sons Co., .26; Sec. 7, 573,000, J. H. Boyce Sons Co. and Roy L. Igo, .26; Sec. 8, 594,000, J. H. Boyce Sons Co. and Roy L. Igo, .296; Grand Lake New Levee, Sec. 1, 500,000, J. J. McCaughey Co., 205 W. Wacker Dr., Chicago, Ill., .24; Sec. 2, 526,000, J. J. McCaughey Co., .26; Sec. 3, 223,000, Duluth Superior Dredging Co., Duluth, Minn., .251; Sec. 4, 476,000, Sternberg Co., Inc., Arcade Bldg., St. Louis, Mo., and J. H. Boyce Sons Co. and Roy L. Igo, both .38; Sec. 5, 481,000, J. J. McCaughey Co., .295; Sec. 6, 457,000, J. J. McCaughey Co., .24; Duckport New Levee, Sec. 1, 626,000, Fred M. Crane Co., Omaha, Neb., .224; Reid Bedford New Levee Sec. 1, 402,000, J. H. Boyce Sons Co. and Roy L. Igo, .37; Sec. 2, 402,000 Callahan Walker Constr. Co., Paragould, Ark., .43; Approx. 4,385,000 cu. yd. earthwork on south bank Arkansas River in Arkansas, below Jefferson-Lincoln County Line, Item 25, 410,000, J. W. Noble & T. W. Crow, both Fayette, Miss., .2387; Round Lake to Old River, Item 26, 645,000, J. W. Noble & T. W. Crow, .2387; Kimbrough to Hockatoo, Item 28, 525,000, Sternberg Co., Inc., .25; Upper State Farm, Item 29, 525,000, Sternberg Co., Inc., .25; State Farm Levee, Item 30, 425,000, W. E. Callahan Construction Co., Arcade Bldg., St. Louis, Mo., .20; Lower State Farm, Item 31, 400,000 W. E. Callahan Construction Co., .20; Above Abuburn Levee, Item 32, 330,000, Sternberg Co., Inc., .24; Auburn to Douglas, Item 33, 450,000, Sternberg Co., Inc., .24; Below Douglas to South Bend, Item 36, 675,000, W. E. Callahan Construction Co., .20. 4-24

Mo., Kennett—See Memphis, Tenn.

Mo., St. Louis — Jacob Berger, V.-Pres., First Natl. Bank, plans industrial incubator, buildings to occupy 11 city blocks on northern river front adjoining municipal docks, on northern river front adjoining municipal docks, foot of N. Market St., so arranged to provide for expanding needs of individual manufacturers; ordinance, soon to be considered by Bd. of Aldermen, calls for construction to be started within year from date of passage.

Mo., St. Louis—Ch. of Engrs., U. S. Army, Washington, D. C., authorized 6800 lin. ft. piling or hurdles, Carroll Island, Rockwood Kinney Point, Mo., and Brooks Point, Ill.; U. S. Engr. Office, St. Louis, soon call for bids.

N. C., Kitty Hawk—War Dept., Quartermaster General, U. S. Army, Washington, advises plans calling for bids in fall for Wright Memorial. 3-27

Tenn., Memphis—Memphis Harbor Comsn., John B. Edgar, Chmn., has bids in, soon let contract for 30,000 cu. yd. excavation for constructing fill on east bank Wolf River between Court Ave. and Adams Ave.

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., opens bids June 20 for constructing about 54,500 cu. yd. earthwork, St. Francis Drainage Dist., Clay and Green Counties, Ark., and Drainage Dist. No. 25, Dunklin County, Mo., on St. Francis River, vicinity Paragould Ark., and Kennett, Mo.

Tex., Brownsville—Navigation Dist. voted \$1,500,000 port bonds for constructing wharfage, deepening 16-ft. channel and for other port facilities in connection with Brazos Santiago Pass. 3-8

Tex., Houston—Port Comsn., B. C. Allin, Port Director, soon ask bids for office building for grain elevator; 40x40 ft., brick, with large vault for storing records; to be ready for occupancy within 2 months. 3-22

Tex., Houston—J. F. Eubank, Pres., Forest Park Cemetery, and associates, erect monumental mausoleum; first unit, \$200,000, conc., stone, marble A. C. Finn, Archt., Bankers Mortgage Bldg.

Tex., Houston—Port Comsn., B. C. Allin, Port Director, receiving bids for \$20,000 stationary derrick with capacity of 75 tons, north shore of turning basin, between Wharves 11 and 12; to be at disposal of all shippers operating out of Port Houston; plans erecting at least one more derrick of same size and probably smaller derrick in very near future.

West Virginia—See Railways.

W. Va., Hinton—Chesapeake & Ohio, Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va., let contract to Haley, Chisholm & Morris, Charlottesville, Va., for \$2,200,000 single track tunnel parallel to old Big Bend tunnel between Big Bend and Hillsdale, 9 mi. east of here; approx. 6300 ft. long, lined with conc., track laid on ballast supported by conc. floor slab and headers; grade through tunnel to be uniform 0.42% adverse to eastbound traffic; tunnel will provide double track between Talcott and Hillsdale, 2 mi.

Miscellaneous Enterprises

Ala., Mobile—Champion Coated Paper Co., P. G. Thompson, Pres., Hamilton, Ohio, reported, plans \$11,000,000 paper and pulp mill to include processes for converting raw materials into finished products; company writes: "Have made no decision as to location or architect of proposed new paper mill in South."

Ark., Little Rock—Home Life Insurance Co., Home Insurance Bldg., recently acquired by Rogers Caldwell and associated, increasing capital stock by approx. \$3,000,000; F. A. Ungles, 4642 Lindell Ave., St. Louis, Mo., erected president.

D. C., Washington—O. J. Maigne Co., 356 Pearl St., New York, manufacturer of printers' rollers, etc., has plans for \$50,000 branch plant.

Fla., Davenport—Sun Dial Candy Shop, Maude C. Blodgett and Kathryn Stillman, having plans completed for enlarging candy plant, manufacturing candy from citrus fruit rind.

Fla., Tampa — Wengler & Mandell, Inc., 402 S. 22nd St., Tampa, and 1948 W. Madison St., Chicago, Ill., probably let contract to Logan Bros., Citizens Bank Bldg., for \$35,000 cigar plant; 3 story, basement, 126x50 ft., brick, comp. and metal shingle roof, wood and conc. floors; Couch & Parslow, Archt., 1006 Florida Ave. 5-22

Fla., Tampa — Corral, Wodiska & Co., H. S. Foley, Sec., 2601 Jetton Ave., has bids in and will let contract in few days for addition to cigar plant, 19th St. and Second Ave.; 75x25 ft., 1 story and basement; Fred J. James, Archt., 706 Franklin St.

Ga., Albany—U. S. Dept. of Agriculture, Washington, D. C., let contract to A. C. Knight for \$12,000 laboratory at fairgrounds.

Ga., Columbus—R. W. Page Corp., W. E. Page, Pres., 1119 Jeanette St., receives bids in few days for additions and alterations to Columbus Ledger Bldg., 1321 Broadway; former bids rejected; plumbing and heating to be let separately; struc. steel, conc. footings, brick and stucco, cast stone trim; bidders include Murphy Pound; J. P. Bradford, Glade Road; Williams Lumber Co., Eighth St., all Columbus; Butts Lumber Co., Phenix City, Ala.; Smith & Biggers, Archt., Murrah Bldg. 6-5

Ga., Columbus—R. W. Page Corp., W. E. Page, Pres., 1119 Jeanette St., advises, plans remodeling present building or erecting building in near future, in connection with purchase of Enquirer-Sun Co. 6-5

Ky., Louisville—James Printing Co., capital \$10,000, incorporated; Don Carlos Jones, 2229 Dearing Court; Thomas E. Watson, 2416 Griffith St.

Ky., St. Matthews—Lawrence Bernard Palmer-Ball, St. Matthews, Pres., Palmer Asbestos & Rubber Co., 2741 Clybourn Ave., Chicago, Ill., announced plans for erecting \$250,000 first unit of \$1,000,000 plant to produce asbestos and rubber goods and combination

of such products, including brake linings, brake blocks, asbestos pipe covering, asbestos cloth, listing tape, etc., and general line of mechanical or industrial rubber goods, asbestos goods, steam packings, steam and gasoline engine gaskets, etc.; first unit, 2 story, fireproof; acquired 3-acre tract on L. & N. R. R., to be provided with switching facilities; local plant to specialize in brake linings and blocks; start construction at once.

La., New Orleans—Laurel Sugars, Inc., chartered; V. L. Caldwell, Erath; C. F. Borah, Whitney Bldg., New Orleans.

La., New Orleans—Oak Street Ferry Co., Inc., capital \$40,000, chartered; Jos. A. Bisso, 821 Nashville St.

Md., Baltimore—H. O. Firor Co., 1601 Court Square Bldg., incorporated; Howard O. Firor, 3506 Liberty Heights Ave; contractor.

Md., Baltimore—Morrell Park Plumbing & Heating Co., Inc., 2618 Washington Blvd., chartered; George E. Kuhl, Jr., Robert Grasson.

Mo., Kansas City—Progressive Garments capital \$50,000, incorporated; Mose L. Shermman, 5930 McGee St.

Mo., Kansas City—Vulcan Mfg. Co., Sidney S. Holland, Pres., 1511 Cypress St., manufacturer of washing machines, ironing devices, vibrating exercise machines, etc., leased 3-story building, 2008-12 Wyandotte St., 35,000 sq. ft. floor space; started remodeling.

Mo., Kansas City—Kansas City Hauling & Excavating Co., capital \$15,000, incorporated; Milton J. Doyle, 5714 Brooklyn St.

Mo., Knoxville—Kirkville Daily Express, E. E. Swain, Pres., let contract to L. F. Poehlman for \$25,000 plant; 33x85, 2 story, wood block and asbestos tile floors, comp. built-up roof; Bonsack & Pearce, Inc., Archt., 411 Olive St., St. Louis. 6-5

Mo., Kansas City—Southwestern Shore Co., capital \$50,000, incorporated; Robert I. Newton, Albert P. Grant, 103 E. 49th St.; manufacture shores used in construction work.

Mo., St. Louis—Siegried-Maltz Pants Mfg. Co., capital \$125,000, incorporated; I. B. Rosenblum, 1010 Pine St.

Mo., St. Louis — Interstate Union Truck Terminal Warehousing & Distributing Corp., capital \$25,000, incorporated; Robert Matthews, 5639 W. St. Louis St.; operates warehouse, freight depots and terminals, docks, wharves, etc.

Md., St. Louis—Supreme Felt & Bedding Co., 218 S. 17th St., capital \$20,000, incorporated; David Keiner, 1216 Walton St.

Mo., St. Louis — Beatrice Creamery Co., 1526 S. State St., Chicago, Ill., acquired American Ice Cream Co., 2225 Gravois Ave.

Mo., St. Louis—Century Electric Co., E. S. Pillsbury, Pres., 1806 Pine St., reported, increased capital, \$5,000,000 to \$7,500,000.

Mo., St. Louis—Anchor Lithographic Co., having plans completed for plant, Duncan Ave. near Boyle Ave.; 3 story, mezzanine, part basement, -50x123 ft., brick, rein. conc., fireproof, conc. foundation, wood block floors, comp. roof, steel sash; general contractor taking bids on wrecking and excavating; Westlake Construction Co., Gen. Contr., Ry. Exch. Bldg.; Russell & Crowell, Archt., Chemical Bldg.

N. C., Charlotte—Pyramid Life Insurance Co. formed with E. E. Jones, Pres., 110 Hopedale Ave., Ivey W. Stewart, 1036 Berkeley Ave., Charles P. Moody, 209 S. College Ave., and associates, to absorb recently formed Charlotte Life Insurance Co.

N. C., Greensboro — Greensboro Billiard Mfg. Co., capital \$60,000, incorporated; W. F. Clegg, S. Elm St.

N. C., Greensboro—W. F. Clegg Cigar Co., capital \$60,000, incorporated; W. F. Clegg, S. Elm St.

Okla., Fairview—Fairview Publishing Co., capital \$50,000, incorporated; Gould Moore, Mary A. Frye.

Mo., Carthage—Up-to-Date Laundry Co., E. O. Proctor, Gen. Mgr., 419 Olive St., started repairs to plant recently burned.

N. C., Durham—American Tobacco Co., 111 Fifth Ave., New York, has plans under way for stemmery.

N. C., Raleigh—Durham Life Insurance Co., S. B. Coley, Pres., 324 Fayetteville St., Raleigh, acquired control of Business Men's Insurance Co., Jefferson Standard Bldg., Greensboro.

N. C., Winston-Salem—Liggett & Myers Tobacco Co., Capt. S. M. Alexander, Engr. in charge, started excavating for packing warehouse, Buxton St.; plans to be complete in few days; 1 story, brick, steel, 15,000 sq. ft. floor space, conc. foundation; install hydraulic press; Northeastern Construction Co., Nissen Bldg., has excavating contract. 4-17

Okla., Oklahoma City—Oklahoma City Arctic Ice Cream Sucker Co., N. S. Ruston, Mgr., leased building, 628 W. Worth St.; installing machinery to manufacture ice cream specialties.

Okla., Oklahoma City—Utility Construction Co., capital \$50,000, incorporated; Carl L. Cooper, Tulsa, 717 S. Rockford Ave.

South Carolina—State Highway Dept., Col., opens bids June 16 for shops at Abbeville, Greenwood, Fairfield, Sumter, Kershaw, Williamsburg and at Eau Claire; to contain repair shop, truck shed, oil house and blacksmith shop. See Want Section—Building Materials and Equipment.

Tenn., Columbia — Fly Mfg. Co., R. L. Petty, plans purchasing 100 new machines for plant, to be installed during August or September; additional machines to be installed later.

Tenn.-Va., Bristol—Hugh McNew and Malcolm McClellan acquired Shelby St. Coal and Ice Co.; to be operated as Shelby Coal & Ice Co.

Tex., Austin — City, Adam R. Johnson, Mgr., soon let contract for \$62,000 abattoir, east city limits on H. & T. C. Ry., J. F. Johnson, 500 E. Third St., probable low bidder; H. F. Kuehne, Supvg. Archt., Littlefield Bldg.; M. L. Diver, Struc. and Mech. Engr., Calcasieu Bldg., San Antonio. 5-29

Tex., Dallas—State Highway Dept., Austin, has plans for \$40,000 storage and distributing plant, Highway No. 6; 50x120, 1 story; install repair facilities.

Tex., Galveston—Texas National Insurance Co., capital \$250,000, incorporated; Theo. M. Webb, 1828 M St.

Tex., Grand Saline—Morton Salt Co., 208 W. Washington Ave., Chicago, Ill., reported, let contract to Worden-Allen Co., Milwaukee, Wis., for 200 tons struc. steel for breaker building.

Tex., Harlingen—Valley Ice Cream Co., capital \$10,000, incorporated; C. S. Pohlemus, C. C. Jones.

Tex., Houston—Burton Packing Co., J. E. Burton, 1836 Dunlavy St., meat packer, acquired plant and properties of Star Packing Co., Clark St. Rd. and Bay; will operate plant as Burton Packing Co.

Tex., Houston — Southern Brass Mfg. & Plating Co. let contract to D. M. Dickey, 3000 Beauchamp St., for \$10,000 warehouse, 6614 Harrisburg Blvd., in connection with plant and office; corrugated iron.

Tex., Longview—W. J. Bacon, Sayre, Okla., and W. K. Leatherock, Slinton, Okla., acquired Longview Daily News.

Tex., San Antonio—Ed Friedrich, 1117 E. Commerce St., manufacturer of commercial refrigerators and fixtures, advises, erecting 3-story rein. conc. addition to plant, approx. 50,000 sq. ft., floor space, for garage, recreation room, storage, assembling floor and shipping room; owners builds with day labor; private plans. 6-5

Tex., Tulsa—Hoffman Ball Valve Co., capital \$10,000, incorporated; Ben P. Hoffman, K. H. Burton.

Va., Bristol—Reynolds Metals Co., R. S. Reynolds, Pres., 65 Broadway, New York, acquired stock of L. A. Sterchi, Bristol, and J. G. Sterchi, Knoxville, in Auto Deflector Co., Bristol, manufacturer of "Nodimolite," anti-glare automobile light; probably manufacture product at Louisville, Ky., and enlarge plant here.

Va., Norfolk—National Fidelity Fire Insurance Co. of America, 213 E. Fayette St., Baltimore, Md., acquired Hampton Roads Fire & Marine Insurance Co., Bankers Trust Bldg.

Va., McKenney—Southside Building Corp., C. G. Zehmer, Pres., C. W. Doyle, V.-Pres., recently formed, signed contract with North American Button Co., Inc., Howard and Palmer Sts., Philadelphia, Pa., for establishing large button plant; local firm to acquire site and erect \$25,000 building, construction to start immediately. 4-10

Va., Norfolk—National Blacuit Co., Southgate Terminal, leased 2 manufacturing units in building, 25th and Fawn St., to be occupied by its subsidiary, McLaren Consolidated Cone Corp., for manufacture of ice cream cones and wafers; installing machinery, costing \$50,000, under supervision of C. A. Neylon, Engr.

Va., Richmond—Reynolds Metals Co., R. S. Reynolds, Pres., 65 Broadway, New York, acquired Lehman, Schwartz & Co., Seventh and Bainbridge St., manufacturer of all varieties of foil, with plant in South at Richmond, manufacturing tobacco foil.

Va., Winchester—H. J. Heinz Co., 1062 Progress St., Pittsburgh, Pa., manufacturer of food products, wires regarding report that company acquired 14-acre tract for large plant; "Plans for building and equipment not complete, just making surveys of land, etc." 6-5

W. Va., North Mountain—H. B. Watson Co., Illinois, apple-handling firm, with office and plant at Chester, Va., acquired Independent Roller Mills Co. plant; wrecking milling machinery and will install graders to handle 1500 bbl. apples daily.

W. Va., Ripley — Mountaineer Publishing Co., capital \$25,000, incorporated; Fred Wolfe, K. E. Hyre.

W. Va., Weston—Charles T. Morris erecting bakery; 2 story; bakery and storage on first floor, apartments on second.

Motor Bus Lines and Terminals

Ark., Little Rock — Pickwick-Greyhound Lines, 119 W. 11th St., Kansas City, Mo., applied to Arkansas Railroad Comsn. for permission to operate interstate and intrastate bus service between Harrison and Little Rock.

Ark., Pine Bluff—Arkansas Power & Light Co. authorized by Arkansas Railroad Comsn. to operate buses, Pine Bluff to Pine Bluff Airport and Country Club.

Ky., Glasgow—Dotson & West Rapid Transit Co., capital \$25,000, incorporated; L. A. Dotson, C. H. West.

Maryland—Following authorized by Public Service Comsn. to operate motor truck freight lines: Ogle Z. Jones, Cambridge; H. B. Watson, Wetpquin; Alexander H. Stewart; J. Norman Marshall, Easton, and A. Wooten, Inc., Pier 4, Pratt St., Baltimore, formerly Victor Lynn Transportation Co. 5-22

N. C., Salisbury—Safety Taxi Cab Co., capital \$20,000, incorporated; E. B. Neave, Lloyd Arey.

Okl., Oklahoma City—See Street Railways.

Tenn., Knoxville—M. D. Arnold, Pres., Fidelity-Bankers Trust Co., announced plans for union bus terminal, State St., and arcade through Briarcoe Bldg. to connect with terminal, both costing over \$200,000, to be in operation in about 5 months; terminal 2 story, 100x97 ft., fireproof; bus companies in agreement include Tennessee Coach Co., White Star Line Inc., both Knoxville; Consolidated Coach Corp., Lexington, Ky., and Old Dominion Stages, Inc., Charleston, W. Va.; will also be used by Skyland Stages, Inc., and Smoky Mountain Transit Co.; Manley & Young, Archt., Maplehurst Park.

Tenn., Knoxville—Street Railways.

W. Va., Bluefield—Mountain State Transportation, Bluefield, authorized by Virginia State Corporation Comsn., Richmond, Va., to operate bus line between Bluefield, and Roanoke via Glen Lyn, Narrows, Pearisburg, Christiansburg and Salem.

Railways

Mo., St. Louis—Missouri-Kansas-Texas R. Co., G. E. Schott, Pur. Agt., ordered 3 dining cars from American Car & Foundry Co., 30 Church St., New York; to be built at St. Charles (Mo.) plant.

Okl., Hough—Beaver, Meade & Englewood R. R. Co., C. J. Turpin, V.-Pres., Insurance Bldg., Oklahoma City, let contract to Panhandle Construction Co., Oklahoma City, on cost-plus basis, for 40-mi. extension, Hough, in westerly direction to Keyes; reported, involves \$1,000,000. 5-22

Tex., Vega—Chicago, Rock Island & Pacific Ry. Co., W. H. Peterson, Ch. Engr., Chicago, Ill., reported, start work about July 1 constructing line, Vega, Tex., to Forrest, N. M., 76 mi., 50 mi. in Texas to be constructed by Chicago, Rock Island & Gulf Ry. Co., a subsidiary. 5-8

Va., Roanoke—Norfolk & Western Ry. Co., Clyde Cocke, Pur. Agt., opens bids June 17 for approx. 40,000 tons 130-lb. RE section head free rail.

West Virginia—Virginian & Western Ry. Co., subsidiary of Virginian Ry. Co., A. M. Traugott, Ch. Engr., Norfolk, Va., let contract to Walton Sudduth Co., 1611 Bluefield St., Bluefield, for 7-mi. extension of Guyandot River Line, mile post 26 to 33, including 1300-ft. tunnel, approx. 400,000 yd. excavation and 8000 yd. concrete. 5-29

W. Va., Hinton—See Miscellaneous Construction.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Ala., Birmingham—City Comsn. receives bids June 17 for grading, sidewalks, conc. curb, combined curb and gutter, conc., asphaltic conc., sheet asphalt, Warrenite bitulithic paving, storm and sanitary sewers; 26,920 sq. yd. paving; 3,450 sq. yd. sidewalks; 9,100 sq. yd. conc. curb and gutter; 12,000 cu. yd. excavation 3,920 lin. ft., 36-42-48 and 60-ft. vitrified brick or conc. sewer; 6,400 cu. yd. excavation; A. J. Hawkins, City Engr.

Arkansas—State Highway Comsn., Little Rock, receives bids June 18 for 5 roads totaling 25 mi.; Benton County—5½ mi. gravel surface, Highway No. 72, Gateway-Eureka Springs road, for point north of Gateway to Benton-Carroll County line; Garland County—¾ mi. conc., Highway No. 70, Hot Springs-Junction No. 6 road; Ouachita County—6 mi. grading, draining, Highway No. 4, Camden-Rosston road; Johnson County—12 mi. crushed stone surface, Highway No. 21, Clarksville-Ozone road; Clay County—¼ mi. grading, draining, gravel surface, Highway No. 90, Holly Island bridge approach road, east of Rectort; C. S. Christian, State Highway Engr.

Arkansas—State Highway Comsn., Little Rock, receives bids June 18 for 5 roads and 19 bridges and culverts: Pope County—1½ mi. grading, draining, conc. paving, Highway No. 64, Pottsville-Blackwell road, 8,049 cu. yd. excavation, 17,152 sq. conc. pavement, 17,036 sq. yd. grading, subgrade and shoulders, 28,662 lb. rein. steel; White County—4½ mi. grading, draining, conc., Highway No. 67, El Paso-Beebe road, 27,810 cu. yd. excavation, 48,728 sq. yd. conc. pavement, 33,682 lb. rein. steel; Bradley County—7 mi. grading, draining, Warren-New Edinburgh road, State Highway No. 8, 83,184 cu. yd. excavation, 50,200 lb. rein. steel; Independence County—6 mi. gravel or crushed stone surface on Stone County line-Locust Grove road, State Highway No. 14, 11,556 cu. yd. washel gravel surface course, clay gravel course, or crushed stone surface course.

In Marion County—1¼ mi. grading, draining and 182 lin. ft. rein. conc. bridge over Georges Creek on Harrison-Yellville road, State Highway No. 12, 3-span, deck girder type; 42,451 cu. yd. excavation, 131,288 lb. rein. steel; Pulaski County—202 lin. ft. struct. steel and rein. conc. bridge over Bayou Meto on North Little Rock-Faulkner County line road, State Highway No. 1; One 80-ft. steel pony truss span, with rein. conc. deck girder approach spans; 68,700 lb. rein. steel, 62,520 lb. struct. steel in truss bridges; Newton and Searcy Counties—17 single, double and triple rein. conc. culverts at intervals on 18 mi. Highway No. 65, Harrison-Marshall road, 1230 cu. yd. excavation; 117,802 lb. rein. steel; C. S. Christian, State Highway Engr.

Ark., Fayetteville—Washington County, J. Lona Slaughter, County Judge, plans graveling road, from Springdale to War Eagle.

Ark., Fort Smith—Comms. Paving Dist. No. 44 receive bids June 19 for 1200 cu. yd. excavation, 5070 ft. 30-in. curb and gutter, 4810 sq. yd. 6-in. conc. pavement; W. L. Winters, Engr.; Fagan Bourland, Mayor. 4-10

Fla., Jacksonville — City Comsn., M. W. Bishop, Sec., considering widening Lake City road within city limits; 80-ft. right-of-way, 40-ft. pavement; W. E. Sheddan, City Engr.

Fla., Miami Beach—City, C. W. Tomlinson, Clk., received low bid from Everglades Construction Co., N. W. 27th Ave., Miami, \$9,552, for road projects H-111 and H-112; E. N. Neff, City Engr. 5-22

Fla., Titusville—State Road Dept., Tallahassee, plans resurfacing with rock about 2 mi. Dixie Highway, from Garden St., at Florida East Coast R. R. crossing, west and north to trail leading to Thomas Peta grove; probably repair Dixie Highway south from Titusville; B. M. Duncan, State Highway Engr.

Georgia—State Highway Bd., Atlanta, receives bids in July for 2 roads: Pavement of State Route No. 10, to Athens, via Stone Mountain and Monroe; road from Avondale toward Conyers; plans letting contract within 60 days to pave Bankhead Highway from Austell to Columbus; B. P. McWhorter, State Highway Engr.

Georgia—State Highway Bd., Atlanta, receives bids June 26 for 2 roads and 2 bridges: Habersham and Hall Counties—10,685 mi. Gainesville-Baldwin road, from Lula to Baldwin, 91,129 cu. yd. excavation and borrow, 126,381 sq. yd. plain cement conc. paving; Grady County—7,647 mi. graded road and bridge on Thomasville-Tallahassee road, from Thomas-Grady County line to Florida State line, 102,068 cu. yd. excavation, 25,656 lb. rein. steel; Clarke-Oconee Counties—bridge over Barbers Creek, on Athens-Watkinsville road, 56,000 lb. rein. steel, 241,000 lb. struct. steel; B. P. McWhorter, State Highway Engr.

Georgia—State Highway Bd., Atlanta, receives bids June 26 for 5 roads: Houston County—13,338 mi. paving, Perry to Pulaski County line; Cobb County—7,967 mi., Chattahoochee River to Austell; Lowndes County—14,646 mi., from Valdosta to Lanier County line; Bulloch County—16,75 mi., Emanuel County line to Statesboro; Pike County—6,575 mi., Spalding County to Zebulon; B. P. McWhorter, State Highway Engr.

Ga., Atlanta—Fulton County Comms., W. B. Stewart, Chmn., extending Delmont Drive, through Fulton High School property, to Piedmont Ave.

Ga., La Fayette—Constructing Quartermaster, Fort Oglethorpe, receives bids June 18 for 12.7 mi. grading, draining, paving, La Fayette road, from Chickamauga Park to La Fayette, 32-ft. roadway, 20-ft. conc. pavement; bridge across West Chickamauga Creek, 400-ft. long including approaches; total cost \$387,000.

Ga., Macon—Bibb County Comms., plan paving old Milledgeville road from Jeffersonville road to point beyond Miller Field; considering widening Forsyth road; S. Robert Shi. County Engr.

Louisiana — Louisiana Highway Comsn., Baton Rouge, has cancelled request for bids for 8.1 mi. conc. paving, Cheneyville-Bunkie Highway, Rapides and Avoyelles Parishes, Route No. 1; O. K. Allen, Chmn.; lately noted bids June 24. 5-15

La., Covington—Louisiana Highway Comsn., Baton Rouge, plans letting contract by Oct. 1 for Evangeline Highway, from Slidell, St. Tammany Parish through Baton Rouge and Opelousas to Texas State line; gravel or hard surface; H. B. Henderlite, State Highway Engr.

Maryland—State Roads Comsn., Baltimore, receives bids June 17 for 8 roads and 2 bridges: Baltimore City—1.2 mi. sheet asphalt, Wilkens Ave., from De Soto road to Western city limits, Cont. BC-88-74; Baltimore County—1.07 mi. Gwynn Oak Ave., Baltimore city limits to Windsor Mill road, Cont. B-116-411; Caroline County—1.51 mi. conc., Goldsboro-Delaware Line Highway, Goldsboro to Sandy Island Bridge, Cont. Co-57-22, Carroll County—4.87 mi. conc. shoulders, Westminster-Taneytown road, Bear Branch to Fountain Valley, Cont. Cl-85-511; Cecil County—3 mi. conc. patches, Main St., Port Deposit, Ce-90-211; Dorchester County—1 mi. conc., from Church Creek toward Gump Swamp, D-61-12; Queen Anne's County—1.2 mi. conc., Sudlersville-Delaware Line road, from Peter's Corner toward Delaware Line, Cont. -58-24; Wicomico County—1.3 mi. conc., from Powellville toward Wharton, and from Powellville toward Salisbury, Cont. Wl-52-12; Baltimore County—extension to double span conc. bridge on Gwynn Oak Ave., over Gwynns Falls, Cont. B-105-411; Montgomery County—extension to triple span conc. arch bridge on road from Whiteoak to Burtonsville (Columbia Pike) over Paint Branch, Cont. M-144-37; G. Clinton Uhl, Chmn.

Maryland—State Roads Comsn., Baltimore, received low bids for 6 roads: Carroll County—1.02 mi. macad., Day toward Winfield, T. Edgie Russell, Frederick, \$17,949; Charles County—1 mi. gravel, Faulkner-Pope's Creek road, end of Cont. Ch. 68 to Pope's Creek, Southern Maryland Construction Co., 14 E. Lexington St., Baltimore, \$12,957; 1.18 mi. gravel, from end of Cont. Ch. 68, near Pomfret to Pomonkey, Southern Maryland Construction Co., \$9,984; St. Mary's County—1 mi. gravel, end of Cont. SM-50, south of Hollywood, toward California, H. W. Hewitt & Sons, Valley Lee, \$6,474; Worcester County—1.61 mi. conc., from Friendship to Berlin-Ocean City road, Hannaman-Burroughs Co., Salisbury, \$29,149; Prince George's County—4.4 mi. conc. shoulders, Rhode Island Ave., Barney St. to Dist. line, Loomis Construction Co., 1014 Wisconsin Ave., N. W., Washington; G. Clinton Uhl, Chmn. 5-22

Md., Cumberland—Allegany County Road Directors, will grade and re-locate 1 mi. Midland-Vale Summit road, from connection with Clarysville road, in village of Vale Summit.

Md., Frederick—City, Bd. of Aldermen, plans curbs and gutters on East St. from Church to Fourth; Pennsylvania R. R. Co., T. J. Skillman, Ch. Engr., Philadelphia, lay tracks and ties to conform to city grade line; city will pave with Barber asphalt between rails; E. S. Maxwell, City Engr.

Miss., Aberdeen—City, Mayor and Bd. of Aldermen, R. C. Maynard, Clk., receive bids June 26 for 1052 ft. paving High St. and 653 ft. Matubba St., 24 ft. wide C. N. Harub Engineering Co., 718 Chapel Ave., Nashville, Tenn. 5-1

Miss., Greenwood—City Council plans paving West Front St. from Yazoo River Bridge to city limits.

Miss., Tunica—Town receives bids June 17 for 6,567 sq. yd. conc. paving, 1,100 cu. yd. excavation, curb, gutter, inlets, etc., on Edwards Ave.

Miss., West Point—City, T. B. Miller, Clk., plans asphalt paving on several streets, through city, from point near cemetery on south to corporate limits on Highway No. 25.

Mo., Kansas City—City, Matthew S. Murray, Dir. of Public Works, receives bids soon for paving Norledge Place, White to Wheeling Ave.

Mo., St. Louis—City, Bd. of Public Service, received low bids totaling \$185,000 for paving 7 streets with asphalt, asphaltic conc., Warrenite bitulithic and vibrolithic conc.; Central Paving & Construction Co., 6161 Maple St.; Trinidad Asphalt Co., 600 S. Theresa St.; C. A. Moreno Co., Syndicate Trust Bldg.; Asphalt Paving Co., 1328 Sublette St.; Bridges Asphalt Paving Co., 1411 Central Industrial Bldg.; Granite Bituminous Paving Co., Ry. Exchange Bldg.; Ansbore & McGuire; W. W. Horner, City Engr. 5-22

Mo., St. Louis—City, Bd. of Public Service, receives bids July 1 for improving alleys, also Wall and Euclid Sts.; W. W. Horner, City Engr.

N. C., Charlotte—Mecklenburg County Commrs. considering expending \$100,000 for 4.6 mi. hard-surfaced road in Sharon Dist. to Sharon Church; considering 2½ mi. penetration paving on Beatty's Ford road and 3½ mi. penetration paving on old Salisbury road.

N. C., Franklin—Macon County Commrs. considering paving Highway No. 28, from Franklin to Hayesville.

Okla., Clinton—City, W. A. Shouse, Clk., preparing plans for paving in Districts No. 38 and 39; Benham Engineering Co., Perrine Bldg., Oklahoma City.

Okla., Oklahoma City—Callaway, Carey & Foster, Inc., Commerce Exchange Bldg., plans receiving bids for 4 blocks paving and sanitary sewer and water lines in Carey Place, between West Seventeenth and West Twenty-first St., and Gatewood and Indiana Ave.

Okla., Oklahoma City—City, E. M. Fry, Mgr., received low bid from Western Paving Co., 610 Grand St., at \$1.48 per yd. to resurface Main St., Santa Fe to Hudson Ave.; W. W. Small, City Engr. 6-5

Okla., Tulsa—City, Dan W. Patton, Mayor, received low bid from Porter Construction Co., Lewis and Frisco tracks, at \$15,782, for paving in Dist. No. 1038; K. R. Teis, City Engr.

South Carolina—State Highway Comsn., Columbia, receives bids June 24 for 29 roads: Anderson County—4.857 mi. topsoil, Route 247, Belton to Cooley's Bridge; Berkeley County—5.713 mi. sand-clay surface, Route 31, from Route 17 to Carnes Cross roads; 8.447 mi. sand-clay surface, Route 402, between U. S. Route 17 and Cordesville; Cherokee County—5.893 mi. grading, Route 29 Gaffney-Blacksburg road; Chester County—21.376 mi. grading, Route 9, Chester to Fort Lynn, via Richburg; Chesterfield County—24.361 mi. sand-clay surface, Route 35, Pageland to McBee, via Jefferson; Fairfield County—4.41 mi. grading, Route 21, Simpson to Ridgeway; 8.577 mi. topsoil surface, Route 215, Richland County line to Jenkinsville; Laurens County—16.475 mi. grading, Route 15, Princeton to Laurens; McCormick County—13.531 mi. grading, Route 20, Parkville, via Modoc, Clarke's Hill and Merriwether to point near Furey's Ferry on Savannah River.

Newberry County—5.779 mi. grading, Route 176, between Whitmire and Newberry; Newberry County—3.844 mi. topsoil surface, section Route 56, north of Chappells; Oconee County—4.897 mi. claybound macad. Routes 2 and 24, from Mountain Rest to Georgia State line; Union County—14.143 mi. topsoil Route 92, Union to Tyger River; Lancaster County—8.921 mi. grading, Route 26, Lancaster to point near Pleasant Hill; 8.372 mi. grading, Pleasant Hill south to Kershaw County line; Union County—9.294 mi. topsoil, Route 9, Lockhart to Kelly Station;

Clarendon-Williamsburg Counties—17.054 mi. grading, Route 26, from point southeast of Manning to U. S. Route 17, near Kingstree; Williamsburg County—23.288 mi. grading, Route 26, Kingstree to Andrews; Aiken County—paving gaps on Route No. 1 between Lexington-Aiken county line and Augusta.

Chester County—14.146 mi. surface treat, Route 7, Chester to Broad River; Fairfield-Chester Counties—34.428 mi. surface treat, Route 215, from Richland County line to Route 7; Lancaster County—7.036 mi. surface treat, Route 93, from Route 26, north of Lancaster to North Carolina state line; Oconee County—9.1 mi. surface treat, Route 13, Westminster to Georgia State line; 10.802 mi. surface treat, Routes 2 and 24, Walhalla to Mountain Rest; Orange-Bamberg Counties—19.919 mi. surface treat, Route 6, North to Denmark; Bamberg-Colleton-Hampton Counties—38.994 mi. surface treat, Routes 36 and 64, Bamberg to Hampton and from Ehrhardt to Route 64; Saluda County—12.961 mi. surface treat, Route 392, Saluda to Saluda River near Chappells; Lexington-Saluda-Newberry Counties—14.817 mi. surface treat, Route 391, Batesburg to Saluda River; Charles H. Moorefield, Ch. Highway Engr.

S. C., Columbia—City Council receives bids soon for \$75,000 permanent improvements: Sidewalks, curbs and gutters on Pine St.; street paving, South Saluda Ave. and Maple St.; sidewalks on Fifth, Sixth, Seventh and Eighth St. and Confederate Ave.; curb and gutters, Park and Fifth St.; W. S. Tomlinson, City Engr.

Tennessee—Dept. of Highways and Public Works, Nashville, receives bids June 27 for 6 roads, Blount-Knox Counties—8 mi. grading, draining, State Highway No. 33-A, between Alcoa and Special Bridge Project No. 16-B, Knoxville; Washington County—9.9 mi. paving, Highway No. 36, Johnson City and Sullivan County line; Roane County—4.4 mi. grading, draining, Highway No. 29, Rhea County line and State Highway No. 1; Obion County—4.5 mi. paving, Highway No. 5, Kenton to point north; 8.6 mi. State Highway No. 5, between point north of Kenton and Union City; Giles County—10.9 mi. Highway No. 15, Lawrence County line and Pulaski; T. E. McEwen, State Highway Engr.

Tenn., Nashville—City, Hilary E. Howse, Mayor, plans repaving West End Ave. and Gallatin road.

Texas—State Highway Comsn., Austin, receives bids June 23 or 24 for 6 roads: LaSalle County—42 mi. rock asphalt surface course on caliche and gravel base course, Highway No. 2, Webb County line to Frio County line; J. J. Estill, Res. Engr.; Young County—3.041 mi. rein. conc., Highway No. 24, Olney to Archer County line; W. H. Garrett, Res. Engr.; Val Verde County—5.796 mi. grading, draining, Highway No. 3, point east of Bean to point west of Shumla; John Stovell, Res. Engr.; Sanderson; San Patricio County—9.983 mi. 2 course limestone rock asphalt surface course on caliche base, Highway No. 128, Angelina to Sinton; F. M. Percival, Res. Engr.; Rockport; Cass County—4.662 mi. grading, draining, Highway No. 48, east from Linden to connection with State Aid Project No. 575-B; T. G. Jenkins, Res. Engr.; Jefferson; Troomorton County—13.461 mi. bit. surface course on sledged stone base course, Highway No. 67-A, Stephens County line to intersection with Highway No. 23; Jas. E. Pirle, Res. Engr.; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comsn., Austin, receives bids June 24 for road and 3 bridges: Tarrant County—6.057 mi. rein. conc., Highway No. 34, Northwest Twelfth St. to Nine Mile Bridge; Navarro County—one bridge across Chambers Creek, and two across Relief Openings to Chambers Creek, consisting of 20-ft. steel I beam spans, rein. conc. floor slab, 22-ft. roadway on treated timber pile bents and bulkheads; Chambers Creek Bridge, to have 52 spans, 1040 ft. long; Relief Bridge No. 1, 30 spans, length 600 ft.; Relief Bridge No. 2, 42 spans, length 840; all on treated timber pile trestle foundations; 276,400 lb. rein. steel; Gibb Gilchrist, State Highway Engr.; G. C. Wickline, Bridge Engr.

Tex., Amarillo—City Comsn., Ernest O. Thompson, Mayor, plans receiving bids for 10 paving projects, including South Van Buren, Mississippi, East Twenty-second, North Arthur, etc.; cost about \$65,576. 6-5

Tex., Beaumont—City Comsn., Paul H. Millard, Mgr., received low bid from Scott Shambaugh, 1401 Dawling St., Houston, at about \$80,000, to pave Elgie, Corley and Emmett St.; R. C. Black, City Engr.

Tex., Beeville—Bee County Commrs. con-

sidering expending \$325,000 for road building in Dist. No. 1, including hard surfacing highway east to Refugio County line and west to Live Oak County line. See Financial News Columns. 5-8

Tex., Dumas—Moore County plans expending \$250,000 to pave Highway No. 115, from Potter County line to northern part of Moore County; south from Dumas, connecting with Potter County line, and north to Sherman County line. See Financial News Columns.

Tex., Fort Worth—Tarrant County, S. D. Shannon, Judge, plans 6.057 mi. rein. conc., Highway No. 34, from N. W. Twelfth St. to Nine Mile Bridge road; M. C. Welborn, Res. Engr.

Tex., Houston—City, W. E. Monteith, Mayor, and Harris County, H. L. Washburn, County Auditor, receive bids June 25 to pave Yale St., Washington Ave. to Twenty-second St.; J. M. Nagle, City Engr.; Chas. R. Haile, County Engr.

Tex., Houston—City, W. E. Monteith, Mayor, received low bid from National Paving Co., 112 Buffalo St., at \$79,801, for 6-in. conc. base, and 2-in. asphalt topping, Washington Ave., Yale to Reinermann; at \$68,270 for paving San Felipe road, and at \$9,116, for Clinton Drive paving "skip"; J. N. Nagle, City Engr. 6-5

Tex., Lubbock—Lubbock County, Robt. H. Bean, Judge, plans 12.321 mi. grading, draining, Highway No. 9, Lubbock to Lynn County line, estimated cost \$30,000; Guy R. Johnston, Res. Engr.

Tex., Matador—Motley County, J. Floyd Jordan, Judge, plans 12.636 mi. grading, draining, Highway No. 18, Dickens County line to Matador; E. W. Mars, Res. Engr.

Tex., Miami—Roberts County plans expending \$300,000 for improving state and county roads, including \$165,000 for Highway No. 33, and \$135,000 for over 80 mi. county roads to be straightened and hard surfaced. See Financial News Columns. 5-15

Tex., Orange—State Highway Comsn., Austin, plans building 15 mi. Evangeline Highway, Orange County, from Hartburg to within 2 mi. of Old Spanish Trail, paralleling Kansas City Southern R. R. and line between Orange and Newton Counties; Gibb Gilchrist, State Highway Engr.

Tex., Raymondville—Willacy County, R. F. Dorsett, County Judge, plans hard-surfacing roads in Dist. No. 5. See Financial News Columns.

Tex., Waxahachie—State Highway Comsn., Austin, appropriated funds toward 13.887 mi. grading, draining, conc. paving and overpass on Highway No. 14, Ellis County, from Navarro County line to Grove Creek, except within city limits of Ennis; total estimated cost \$465,000; Royce A. Stout, County Judge; A. C. Love, Res. Engr., Ennis.

Tex., Wheeler—Wheeler County, R. H. Forrester, Judge, plans 16.882 mi. grading, draining, Highway No. 33-A, Wheeler to Gray County line; M. L. Grady, Res. Engr., Shamrock.

Virginia—State Highway Comsn., Richmond, received bids for 6 roads and bridges aggregating \$410,761: Giles County—3 mi. macad. Route 23, Janutol & Co., Fayetteville, W. Va., Fauquier and Culpeper Counties—6 mi. grading, draining, Route 32, R. R. Davis & Co., Charlottesville; Bland County—9.3 mi. macad. roadway, Route 26, Pendleton & Clay, Wytheville, and Richmond; Augusta and Rockbridge Counties—10 mi. grading, draining, Route 17, Hall & Mitchell, Keswick; Halifax County—6.3 mi. soil., Route 44, Perkins Barnes Construction Co., Blackstone; Chesterfield County—87 mi. soil., Route 13, J. S. Kent, 826 W. Cary St., Richmond; Wythe County—bridge over New River at Jackson's Ferry, R. R. H. Blackwell, Kingsport, Tenn.; C. S. Mullen, Ch. Engr. 5-22

West Virginia—State Road Comsn., Charleston, plans letting contract soon for 4 roads: Brooke County—3.2 mi. short cement conc. and modified bit. macad. paving; Cabell County—13 mi. conc. and rock asphalt paving; Barbourville-Culloden road; Fayette County—5.8 mi. grading, draining, Hico-Camp Lookout road; Monongalia and Wetzel Counties—3.6 mi. grading, draining, Cottontown-Wadestown road; C. P. Fortney, Chmn.

W. Va., Bluefield—City, Elmer C. Barton, Mgr., receives bids June 17 for widening and repaving Russell, Monroe and Raleigh St.; considering conc. sidewalk on Raleigh St.

Contracts Awarded

Ala., Montgomery—City Comsn., W. A. Gunter, Mayor, let contract to R. G. Lassiter Co., Shepherd Bldg., for curbs and gutters and sidewalks on Saffold St., Madison to Winona; also for graveling roadway from Saffold St. to school; cancelled contracts recently let; J. M. Garrett, City Engr. 5-29

Fla., Jacksonville — Duval County Com. Mrs. let contract to McCormick Lumber Co., Acosta, for 40,000 ft. lumber for road and bridge work.

Kentucky—State Highway Dept., Frankfort, let contracts for surface treatment and retreat on 37 roads: Group No. 1—Larue, Nelson and Spencer Counties, to F. G. Breslin, Louisville, \$53,006; Group No. 2—Anderson, Franklin and Shelby Counties—Hendricks-Stachler Tar & Oil Co., Louisville, \$9,223; Group No. 3—Garrard and Jessamine Counties, to R. B. Tyler Co., Louisville, \$43,124; Group No. 4—Clark, Fayette, Franklin, Woodford Counties, Carey-Reed Co., Lexington, \$46,017; Group No. 5—Bourbon, Montgomery, Nicholas Counties, Southern Oil & Tar Co., Louisville, \$74,452; Group No. 6—Boone, Harrison, Pendleton Counties, R. B. Tyler Co., \$24,201; Group No. 7—Campbell County, Eaton Oil Works, Covington, \$35,381; Group No. 8—Mason County, Kentucky Road Oiling Co., Frankfort, \$40,337; H. D. Palmore, State Highway Engr. 5-1

La., Lake Charles — City, Leon Lacke, Mayor, let contract to James Stanton & Sons, Leavenworth, Kansas, for 25,000 sq. yd. rein. conc. paving; to Gulf Coast Paving Co., Ruston, La., for 11,000 sq. yd. Duraco rock asphalt resurfacing; T. H. Mandell, City Engr. 5-29

Miss., Grenada—Grenada County Bd. of Suprs. let contract to J. A. and H. E. Pigford, Russell, Miss., at \$42,183, for .824 mi. state trunk road, from Grenada to Memphis; also bridges. 5-22

Missouri—State Highway Comsn., Jefferson City, let contract to Garrett Construction Co., 211½ E. Commercial St., Springfield, at \$510,000, for 20 mi. paving in Dallas and Hickory Counties. 5-29

Mo., Independence — Jackson County let contract to T. P. Thompson, 3008 Forest Ave., Kansas City, \$97,828, for 3.73 mi. grading Milton-Thompson road.

Mo., Moberly—City, J. B. Holman, Clk., let contract to Lynch-McDonald Construction Co., Moberly, at \$33,743, for brick paving on Concannon St., and \$45,023, for 10 blocks rein. conc. paving on Moberly St. 5-1

N. C., Charlotte—City, R. W. Rigsby, Mgr., let contract to Carolina Road Surfacing Co., Charlotte, at \$6,727, for resurfacing with asphalt, 90,000 sq. yd. street pavement. 5-29

Oklahoma—State Highway Comsn., Oklahoma City, let contracts for 9 roads and 24 bridges totaling \$492,153: Muskogee County—4.52 mi. grading, draining, U. S. Highway No. 64, Ellis & Lewis, Surety Bldg., Muskogee, \$20,654; 3 bridges to Richards & Moorman, Tahlequah, \$28,331; Alfalfa County—2.8 mi. Highway No. 64, Ingersoll, east and north, Schultz Construction Co., First Natl. Bank Bldg., Fort Smith, Ark., \$11,652; 7.9 mi., from Ingersoll west, Schultz Construction Co., \$34,908; 3 bridges to Merveldt & Lawson, El Reno, \$8520; Woods County—5.9 mi. Highway No. 64, Alva, east, Maney & Alley, Empire Bldg., Oklahoma City, \$15,494; Blaine County—15.8 mi. State Highway No. 8, Geary to Watonga, Maney & Alley, \$64,439; 6 bridges, Nims & Frost, Hydro, \$46,534; Wagoner and Rogers Counties—9.14 mi. State Highway No. 11, Tulsa County, east, Dan Blackburn, Healdton, \$90,741; 2 bridges, E. G. Fike & Co., 2531 E. Independence St., Tulsa, \$15,634; Mayes and Rogers Counties—6.17 mi. Highway No. 11, from intersection of U. S. Highway No. 73, west, Ellis & Lewis, \$29,516; bridge to E. S. Alderman, 1605 W. 39th St., Oklahoma City, \$9186; Comanche County—7.9 mi. State Highway No. 7, Kiowa County line, east, Montgomery & Shoemaker, Ardmore, \$32,462; 4 bridges to Southwestern Bridge & Culvert Co., Herskowitz Bldg., Oklahoma City, \$33,800; Kiowa County—7.6 mi. State Highway No. 7, Snyder to Comanche County line, T. C. Ottinger, Hinton, \$29,813; 5 bridges to Merveldt & Lawson, \$22,569; subject to approval of Federal bureau of public roads; A. R. Losh, State Highway Engr. 5-22

Okla., Oklahoma City—City, M. Peshek, Clk., let contract to Conley Construction Co., El Reno, \$11,460, for 7-in. conc. paving on Tenth and on Alice St.; W. Small, City Engr.

Okla., Shawnee—City, N. Welner, Mayor, let contract to S. P. Carr Construction Co., Shawnee, \$24,654, for grading and paving Hilltop and Eighteenth St.

Okla., Tulsa—City, Dan W. Patton, Mayor, let contract to Standard Paving Co., 2119 E. Eleventh St., at \$28,529, for grading, curbing, gutters, and 7,311 sq. yd. conc. paving in Dist. No. 1037; K. R. Tels, City Engr.

Tenn., Knoxville—Freeman Bros. & Robinson, 1154 Armstrong Ave., have contract at \$14,523, for 7980 yd. crushed stone on 8 roads in Knox County.

Tenn., Nashville—Dept. of Highways and Public Works, R. H. Baker, Commr., purchased 62,400 bbl. of cement from Marquette Cement Mfg. Co., Union & Planters Bank Bldg., Memphis, for road work.

Tex., Houston — City, W. E. Monteith, Mayor, let contract to Gulf Bitulithic Co., 2820 Polk St., \$62,250, for 3 mi. south side drive along Brays Bayou, from Hermann Park to MacGregor Park; G. L. Fugate, Acting City Engr.

Tex., Spur—Charles Whitner, contractor, plans starting, June 16, conc. paving on 5 blocks streets in downtown section, including Burlington Ave.; Ned Hogan, Mayor.

W. Va., Bluefield—Lilly Brothers, Bradmann Bldg., Bluefield, have contract to surface treat several miles macad. street; start work before July 1; Elmer C. Barton, Mgr.

W. Va., Huntington—Cabell County Court, G. L. Armstrong, Pres., let contract to T. E. Walker & Co., 2839 Third Ave., and Billups, Wellman & Co., First Huntington National Bank Bldg., both Huntington, for 20 mi. gravel roads in Grant Dist.; approximate cost \$100,000.

W. Va., Wheeling—City let contract to Stringer & Stringer, Wheeling Bank & Trust Bldg., at \$21,300, to resurface with amiesite, Second St., Jefferson to Sherman Ave., Fourth Ward.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Birmingham—See Roads, Streets, Paving.

Ark., Augusta—W. F. Woody & Co., Little Rock, has contract for sewer system, Sewer Impv. Dist., No. 1; A. M. Lund, Engr., Home Insurance Bldg., Little Rock. 6-5

Ark., Hot Springs National Park—City, Leo P. McLaughlin, Mayor, reported, having plans prepared by H. S. Moreland, City Engr., for sewage disposal plant.

Fla., Miami Beach—City, Claude A. Renshaw, Mgr., having estimates prepared for installing storm sewers.

La., New Orleans—Sewerage and Water Bd. receives bids Aug. 4 for following: Contract 108-D, welded steel pipe for drainage station No. 9; Contract 113-D, traveling crane for drainage station No. 9; contract 208-S, welded steel pipes for sewer station D; contract 207-S, cast iron pipes and fittings for sewer station D; plans, etc. at office of secretary.

La., Olla—Town, reported, install sewer system.

Md., Baltimore—Angelozzi Construction Co., White St. and Belle Vista Ave., low bidder at \$119,000 for sewers, storm water Contr. No. 58, near Eastern Ave. underpass.

Md., Baltimore—Bd. of Awards receives bids June 18 for sanitary sewers and storm drains in miscellaneous Sewer Districts, Storm Water Contr. No. 151. See Want Section—Bids Asked.

Mo., St. Louis—Bd. of Public Service, W. W. Horner, Engr., reported, plans Moline Creek Public sewer, including conc. horseshoe sewer and about ½ mi. open sewer.

N. C., Charlotte—Mecklenburg County Bd. of Education, reported, plans \$10,000 sewage disposal plant at Oakhurst school.

Okla., Nichols Hill, Oklahoma City—City, reported, have plans ready in June or July for following improvements, \$575,000 bonds available; storm sewer, sanitary sewers, water works and park improvements; Benham Engineering Co., Engrs., Perrine Bldg., Oklahoma City. 5-15

Okla., Oklahoma City—See Roads, Streets, Paving.

Okla., Tulsa—C. M. Brown, 1315 S. Trenton St., reported, has contract for sanitary sewer system Springdale Acre Lots Addition, League subdivision, etc.

Tenn., Chattanooga—City, reported, will construct with city's forces sewer line into No-Man's Land; cost \$45,000.

Tex., Big Springs — Williams-Jacob Co., Rule Bldg., Amarillo, has contract for disposal plant; W. S. Thompson, San Angelo, for laterals; cost \$130,000.

Tex., Georgetown—City, reported, acquired sewer system.

Tex., Houston — Elder Construction Co., 4714 Jack St., low bidder at \$34,513 for storm and sanitary sewers in Washington Ave. project; McLean & Green, at \$5,000 for storm and sanitary sewer; Tellepsen Construction Co., 3900 Clay St., has contract at \$27,799 for storm and sanitary sewers on West Gray St.

Tex., Taft—Narby Construction Co., has contract for extension sewer system; cost \$12,500.

Tex., Waxahachie—City, reported, plans sewage disposal plant; cost \$60,000; J. Rady, Engr., Provident Bldg., Waco.

Va., Charlottesville — City receives bids June 28 for construction of 2 sewage disposal plants; Lee H. Williamson, City Finance Bldg., Consol. Engrs. See Want Section—Bids Asked.

Va., Fredericksburg—E. G. Heflin, Fredericksburg, has contract for construction rein. conc. box drain.

Va., Orange—See Water Works.

Va., Richmond—W. J. McLane, 1112 Tyler St., Richmond, reported, has contract for sewers in northern section and outfall sewer in Woodland Height; Gray Concrete Co., Thomasville, N. C., for conc. pipe; Southside Brick Works, 20 N. Eighth St., sewer bricks; Masters Builders Supply Corp., for cement and terra cotta pipe; C. R. Guthrie, for sewer in Lafayette St. 5-8

Street Railways

Okla., Oklahoma City—Oklahoma Ry. Co., reported, plans expending over \$1,000,000 for street railway and bus line extensions over period of years in connection with development of major street system.

Tenn., Knoxville—Knoxville Power & Light Co., Fred V. Underwood, Gen. Mgr., submitted proposition to City Mgr. Dempster for replacing Vestal St. car line with trackless trolley.

Telephone Systems

Ark., Sheridan—Consumers Utility Co., E. T. Stanfield, Pres., Little Rock, acquired Sheridan Telephone Co.; also negotiating to acquire Star City telephone exchange from E. P. Ladd; plans improving Sheridan exchange.

Ark., Star City—See Sheridan.

Ark., Star City—Southeast Arkansas Telephone & Power Co., incorporated; Sydnor Hall, 1811 Morgan St., St. Louis, Mo.; Lamar Williamson, Monticello, Ark.; operate telephone, electric light and ice plants.

D. C., Washington — Aeronautical Radio, Inc., Paul Goldsborough, Secy., Carlton Hotel, advises that Aeronautical Radio, Inc., will within short time operate chain of radio stations from coast to coast, supplying navigational aids to airplanes in flight; stations to be located along routes of certain large transport companies and will operate on high frequencies; no construction program planned at present as stations are being acquired under lease from some of present air transport operators.

Fla., Lakeland — Lakeland Broadcasting Co., incorporated; Louis Carlton Herring, Gordon F. Fletcher.

Georgia—Continental Telephone Co., Kansas City, Mo., applied to Georgia Public Service Comsn., Atlanta, for permission to issue \$650,000 stock for a subsidiary corporation to be established in Georgia to be known as Georgia-Continental Co., to acquire exchanges at Monroe, Buena Vista, Dawson, Lincolnton, Cuthbert, Washington and Toccoa.

La., New Orleans—Postal Telegraph Cable Co., J. E. Munn, Dist. Supl., 828 Gravier St., has low bid from Gervais F. Favrot, Balter Bldg., at \$19,857, for alterations to 3-story brick buildings, 828-26-28 Gravier St., and wired main office recommending award of contract; Walter Cook Keenan, Consol. Engr., 4239 St. Charles Ave. 5-29

Mo., Boonville — Southwestern Bell Telephone Co., W. O. Pennell, Ch. Engr., Telephone Bldg., St. Louis, let contract to J. M. Haley, Moberly, for repeater station; 1 story, basement, 74x84 ft., brick, fireproof; I. R. Timlin, Archt., Telephone Bldg., St. Louis.

Mo., St. Louis—W. May, Inc., chartered; Clifford Cornell, 230 Biddle St.; radio broadcasting.

Mo., St. Louis—Following have sub-contracts in connection with \$1,000,000 toll building of Southwestern Bell Telephone Co., W. C. Housam, Div. Supt.; Metal Windows, Crittall Casement Window Co., Chemical Bldg.; metal windows, Campbell Metal Window Corp., Chemical Bldg.; glass and glazing, Hadley-Dean Glass Co., 703 N. 11th St.; fire doors, St. Louis Fire Door Co., 1134 S. 6th St.; movable partitions, E. F. Hauserman Co., Telephone Bldg.; cut stone and granite work, Pickel Stone Co., 1320 S. Vandeventer St.; terra cotta, Winkle Terra Cotta Co., 5739 Manchester St.; finish hardware, Ratz Bros. Hardware Co., 3229 Calas St.; misc. and orna. iron and steel work, Mississippi Valley Structural Steel Co., 3117 Big Bend Rd.; painting, J. W. O'Connell Painting Co., 1011 N. Broadway; Boaz-Kiel Construction Co., Gen. Contr., Ambassador Bldg.; I. R. Timlin, Archt., Telephone Bldg. 3-20

S. C., Greenville—Southern Telegraph & Telephone Co., Atlanta, Ga., G. L. McCollough, Dist. Mgr., soon start constructing first direct long distance telephone line, Greenville, to Hendersonville, N. C.

Tex., Brownsville—Rio Grande Valley Telephone Co., E. C. Mockbee, Mgr., plans \$50,000 telephone building to be erected in early fall; 2 story, brick, rein. conc.

Tex., Taft—Western Telephone Corp., T. A. Verner, Dist. Mgr., broke ground for telephone building, Gregory St.; 30x58 ft.; house battery equipment.

Va., Pulaski—Chesapeake & Potomac Telephone Co., Richmond, granted 30-yr. telephone franchise.

W. Va., Clarksburg—Chesapeake & Potomac Telephone Co. of West Virginia, Charleston, install repeaters and associated apparatus in central office, costing \$27,000; E. L. Branch, local Mgr.

W. Va., Fairmont—Chesapeake & Potomac Telephone Co. of West Virginia, Charleston, authorized additions and improvements to Fairmont central office involving expenditure of \$12,300, included in \$67,000 authorized for similar improvements to system in state; will include out-of-town switchboard equipment.

Textile Mills

Ga., Griffin—Davedown Hosiery Mills, reported, double capacity of mill.

Ky., Louisville—Stockholders of Louisville Cotton Mills Co., Inc., voted to change name to Louisville Textiles, Inc.; will issue \$400,000 convertible 7% preferred stock in shares of \$100 par and 21,500 shares of no par common; will use main plant at 1318 McHenry St.; manufacture woven specialties, spreads, etc.; expend \$150,000 for looms and other equipment. 5-22

N. C., Burlington—Alamance Weaving Co., capital \$100,000, incorporated; R. Eberhart, L. F. Winslow.

S. C., Cowpens—Idealite Mills, incorporated; W. M. and A. S. Moore.

S. C., Red River—Haynesworth & Haynesworth, Chamber of Commerce Bldg., Greenville, reported, acquired for bondholders the Red River Cotton Mill; plans reorganization of company to operate.

S. C., Tugau—Tugau Mills, Plant No. 1, reported, install 50 looms.

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ark., Cabot—Town, reported, granted franchise for water works system to J. O. Gunter, Dallas, Tex.

Ark., Lewisville—City install water and sewer system in Improvement Dist. No. 1.

Fla., Manatee—City, reported, closed contract with Florida Power & Light Co., Miami, for improvements to water supply and pumping plant.

La., Shreveport—City receives bids June 24, change of date, for water mains to municipal airport; plans, etc. at office of city engineer. 5-22

Md., Baltimore—Bd. of Awards receive bids June 18 for clearing site of Prettyboy reservoir. See Want Section—Bids Asked. 5-22

Mt., Baltimore—DeCou & Chidlaw, Eutaw & Biddle Sts., low bidders at \$127,749 for Mount Vernon pumping station. 5-22

Md., Dundalk, Baltimore—City acquired Dundalk Water Co.; supply water to airplane plants and airport. 12-5

Miss., Indianola—Town votes June 30 on \$30,000 bonds for enlarging water works.

Miss., Sledge—Town, reported, let contract to Volz Construction Co., Memphis, Tenn., for water mains; Layne-Central Co., Memphis, Tenn., for well. 5-29

N. C., High Point—Chicago Bridge & Iron Works, Chicago, Ill., has contract at \$48,800 for 1,000,000 gal. tank on Prospect St.; W. E. Linthicum & Sons, 315 Boulevard, has contract for excavation work; R. G. Lassiter & Co., Citizens Bank Bldg., Raleigh, for conc. work. 6-5

Okla., Blackwell—City, E. W. Merrifield, Supt. of Public Utilities, reported, plans constructing dam with delivery capacity 113,500 cu. ft. of water a second from impounded supply of 10,000 acre ft.; tentative plans prepared by C. A. Stoldt, City Engr. recommended that dam be constructed on Chickaskia below mouth of Bluff Creek; 850 ft. long on crest; 445 ft. to be earthen with conc. core wall and other 405 ft. hollow type, rein. conc. overflow, Ambursen dam; estimated cost \$682,694.

Okla., Chickasha—City, Jess Larson, Mayor, reported, plans installing auxiliary booster pumps at water works plant. 4-17

Okla., Guthrie—City, Wm. V. Montin, Mgr., votes June 16 on \$355,000 bonds for new system and extension and 12, 10, 8 and 6-in. c. l. mains; 300,000 gal. tank and tower; install 42 mi. gas mains; date of opening bids not set. 5-22

Okla., Oklahoma City—See Roads, Streets, Paving.

Tenn., Cowan—State Railroad and Public Utilities Comsn., Nashville, approved franchise granted by towns of Cowan and South Pittsburgh to Tennessee Water Co., Provident Lift Bldg.; also approved application of Tennessee Electric Power Co., both Chattanooga, to take over franchise from water company.

Tenn., Nashville—State Railroad and Public Utilities Comsn., Nashville, approved application of Lakewood Water Co., for permission to extend water mains along Gallatin Turnpike in Davidson County from Howard Ave. to Maynor Ave.

Tenn., Smithville—Bd. of Aldermen closed contract with J. B. McCrary Co., Citizens & Southern Bank Bldg., Atlanta, Ga., for survey incorporated portion of city to determine advisability of future installation of water works system.

Tex., Brownsville—City, soon call for bids for water purification plant; 4,000,000 gal. capacity; work includes sedimentation basin, filters, etc.; cost \$100,000; Morey & Morey, Engrs., Praetorian Bldg., Dallas. 5-29

Tex., Harlingen—Central Power & Light Co., San Antonio, reported, let contract to Walter F. Chamber, Farmers State Bank Bldg., San Benito, for filtration plant addition; Hawley, Freese & Nichols, Conslt. Engrs., Fort Worth.

Va., Orange—City votes June 17 on \$150,000 water improvement and sewerage bonds.

Va., Quantico—Ch. of Bureau of Yards and Docks, Washington, receives bids June 21 for 2,000,000 gal. rein. conc. reservoir at Marine Barracks. See Want Section—Bids Asked.

W. Va., Mannington—City receives bids June 25 for materials and constructing 2 steel water storage tanks with cover, capacity 200,000 gal. each. See Want Section—Bids Asked.

Woodworking Plants

Ala., Troy—Davis Industries, Inc., Meyer Davis, Pres., Kokomo, Ind., tentatively decided to establish plant to manufacture radio

and victrola cabinets and furniture; secured option on 3-story building.

Ga., Quitman—F. M. Shore & Co., manufacturer of Southern pine interior finish, completely remodeling plant; erecting new buildings, and installing modern machinery, including cross-circulation fan kilns from Moore Dry Kiln Co., Jacksonville, Fla.; will utilize new edge-to-edge method of flat stacking.

N. C., Winston-Salem—B. F. Huntley Furniture Co., Patterson Ave., Div. of Simmons Co., New York, plans erecting additional building for furniture manufacturing and other space, totaling 100,000 sq. ft.; reported, soon begin construction.

FIRE DAMAGE

Ala., Opelika—Grandstand, poultry buildings, horse stables and private booths at Opelika Dist. Fair Assn.; loss \$11,000.

Fla., Frostproof—Two dwellings, Carson Ave., owned by Mrs. Frank Cardullo; adjoining dwelling owned by L. Maxey.

Fla., Jacksonville—Peninsular Life Insurance Co. bldg., Julia and Forsyth Sts.

Ga., Hapeville—Robt. B. McCord's residence, Stewart Ave.; loss \$6000.

Ky., Frankfort—Dr. P. C. Knoppe's residence; loss \$6000.

Ky., Lexington—A. L. Butler's residence, Pine Crest farm, Leestown Pike; loss \$24,000.

Ky., Lexington—J. T. Jackson Lumber Co.'s 3 sheds and warehouse, Price Ave. and Belt Line R. R.; loss \$50,000.

Ky., Lothair—Storage plant of Standard Oil Co.

Ky., Lothair—Nine dwellings owned by Algoma Coal Mining Co.; loss \$15,000.

Ky., Louisville—Acme Paper Storage Co.'s plant, 141 N. Second St., loss \$25,000; warehouse of W. E. Ross, 1123 Cherokee Road, loss \$2500.

Ky., Paducah—Plant of National Sheet Metal Works, 123 S. First St., W. C. Shearer, J. W. Anderson and T. W. Thompson, owners.

Ky., Williamston—Williamston Hardware & Lumber Co.'s plant, loss \$65,000; several dwellings, loss \$35,000.

Md., Church Hill—Wm. H. Good's undertaking establishment.

Miss., Louise—Mrs. J. D. Upshaw's building, occupied by Wysinger Drug Store and W. T. Odom; loss \$12,000.

Miss., Calhoun City—Residences of Mrs. Alice Boland and Mrs. Effie Langston.

Mo., Caruthersville—Dillman Egg Case Co.'s plant; loss \$150,000.

Mo., Carthage—Up-to-Date Laundry Co.'s plant, 419 Olive St.; loss \$20,000.

N. C., Roseboro—Denny Veneer Co.'s plant; loss \$60,000 to \$75,000.

Okla., Tecumseh—Palace Theater; address The Management.

Tenn., Lebanon—Dee Manning's residence, Franklin Pike near Lebanon.

Tex., Abilene—Rooming house, Mrs. Maude Parker, Mgr.

Tex., Stockdale—Tom Riley's country residence near Stockdale.

Va., Roanoke—Residence of R. H. and S. A. Hardy, Grand Ave., Tenth St. Extension, N. W.

W. Va., Oak Hill—Watkins Hotel; B. W. Blake Five, Ten and Twenty-five Cent Store; T. G. Law's barber shop; loss \$20,000.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Ga., Macon—Al Shihah Temple, A. A. O. N. M. S., C. A. McAllister, 312 Adams St., member, completing plans for \$75,000 temple; hollow tile and stucco, 3 stories; W. Elliott Dunwoody, Jr., Archt., 460 Broadway.

Ky., Louisville—Masonic Widows' and Orphans' Home, 1815 S. Second St., plans domestic science building.

Md., Baltimore—Baltimore Forest No. 45, Tall Cedars of Lebanon, Archey C. New, Chmn., Bldg. Comm., 2 E. Lexington St., purchased former Lyceum Theatre, 1209-15 N. Charles St.; use 77x111-ft. lot in rear for erection of 1-story and basement auditorium, about 35 ft. high; architect not selected.

Miss., Pascagoula—Pascagoula Lodge No. 45, I. O. O. F., remodeling bldg. for post office and lodge rooms; Shaw & Woleben,

Archts.-Constr. Supvrs., Gulfport. 4-17

Tenn., Knoxville — Benevolent Protective Order of Elks will receive bids beginning July 1 for \$275,000 clubhouse, Gay St. and Hill Ave.; rein. conc. frame, brick, first floor stone, 5 stories above ground, 100x125 ft., conc. and tile floors, conc. foundation comp. roof; furnishings, equipment, etc., \$25,000 to \$30,000; Baumann & Baumann, Archts., 813½ W. Market St. See Want Section—Building Material and Equipment. 5-8

Bank and Office

D. C., Washington — Methodist Episcopal Bd. of Temperance, Prohibition and Public Morals, Methodist Bldg., First and Maryland Aves., N. E., has not yet let contract for 5-story addition to bldg.; low bid from J. H. Pierce, Law Bldg., Norfolk, Va.; J. Lee Wilkinson, Archt., 1007 South Carolina Ave., Washington, and Falls Church Va. 4-10

Fla., Jacksonville — Peninsular Life Insurance Co., Chas. E. Clarke, Pres., Julia and Forsyth Sts., will repair bldg. noted damaged by fire.

Tenn., Memphis — Universal Life Insurance Co., J. E. Walker, Pres., erect \$25,000 office bldg., 234 Hernando St.; brick and rein. conc., 1 story and basement, comp. roof, misc. iron and steel, steam heat; Moses & McKissack, Archts., Morris-Memorial Bldg.; McKissack & McKissack, Contrs., Morris Memorial Bldg., both Nashville.

Tex., Beaumont — City National Bank remodel bldg.; Livesay & Wiedemann, Archts., San Jacinto Life Bldg.; bids June 11.

Tex., Marshall — Dr. G. P. Rains is organizing corp. to erect \$200,000 office bldg., N. Washington Ave.; fireproof, 5 stories, 60x100 ft., elevators; Wyatt C. Hedrick, Inc., Archt.-Engr., First Natl. Bk. Bldg., Fort Worth.

Tex., New Braunfels — First National Bank, Walter Faust, Pres., receives bids June 20 for razing bldg. and clearing site for \$80,000 bldg.; brick or stone, rein. conc., 1 story, probably with foundation to carry 5 additional stories, 50x80 ft.; Giesecke & Harris, Archts., Norwood Bldg., Austin; Jeremiah Schmidt, Asso. Archt., New Braunfels; Munsey Wilson, Struct. Engr.; L. D. Royer, Mech. Engr., care Archts. 3-29

Va., Richmond — Federal Reserve Bank of Richmond, Geo. W. Seay, Gov., have plans for \$700,000 to \$800,000 addition, Ninth St. and Franklin Sts., ready and call for bids about June 15; 70x120 ft.; connected with present bldg. by colonnade; Taylor & Fisher, Archts., Baltimore Tr. Bldg., Baltimore, Md. 2-20

Va., Richmond — Southern Aid Society, 529 N. Second St., remodel and enlarge office bldg. after plans by Edw. F. Sinnott, Amer. Natl. Bk. Bldg. 5-22

Churches

Ark., Pine Bluff — First Presbyterian Church having preliminary plans drawn by Edwin B. Phillips, Fidelity Bk. Bldg., Memphis, Tenn., to remodel bldg.; \$15,000 to \$25,000; new roof, lighting system, organ, etc. 10-31

D. C., Washington — Central Presbyterian Church, 15th and Irving Sts., N. W., R. W. Prince, member, 725 Thirteenth St., N. W., ask for bids in 2 or 3 weeks for \$100,000 Sunday school; brick, 3 stories; Herbert L. Cain, Archt., Grace Securities Bldg., Richmond, Va. 2-13

Md., Baltimore — Brown Memorial Presbyterian Church, Dr. Thos. Guthrie Speers, Pastor, 1316 Park Ave., let contract to Benj. F. Bennett Building Co., 123 S. Howard St., to remodel interior; \$35,000; new chancel; remove galleries, etc.; Cram & Ferguson, Archts., 248 Boylston St., Boston, Mass. 4-17

Md., Baltimore — Franklin St. Presbyterian Church, Dr. Harris E. Kirk, Pastor, 504 Cathedral St., call for bids about June 15 for improving church, parish house and manse; Wm. Gordon Beecher, Archt., 12 E. Pleasant St. 5-1

Miss., Indianola — First Presbyterian Church, Rev. Wm. H. Irvine, Pastor, having plans drawn by Regan & Weller, Dermon Bldg., Memphis, Tenn., for \$20,000 bldg.; brick, 1 and 2 stories.

Mo., California — Evangelical Church, Rev. J. C. Bierbaum, Pastor, rejected bids for remodeling work and addition to bldg.; \$35,000; Chas. A. Smith, Archt., Finance Bldg., Kansas City. 3-6

Mo., Washington — First M. E. Church, Rev. H. Camp, Pastor, plans \$15,000 Sunday school; brick, 2 stories; plans by Bd. of Extension of M. E. Church, South, 1115 S. Fourth St., Louisville, Ky.

S. C., Clinton — First Presbyterian Church receives bids June 17 at office Wm. Jacobs, Chmn., Bldg. Comm., for rubble stone and cast stone trim bldg.; 2 stories, steel sash, leaded glass, steel trusses, Celotex lath, gum floors, asbestos roof with alternate for black slate; separate bids for heating and plumbing, Warren Webster steam heat, Standard plumbing fixtures, or equivalent; plans from Willis Irvin, Archt., S. F. C. Bldg., Augusta, Ga., Atlanta Builders Exchange, Atlanta, Ga., Assn. of Gen. Contractors of America, Columbia, S. C., and Mr. Jacobs, Clinton; following contractors estimating: Thos. Nilson, 111 W. Coffee St.; Gallivan Construction Co., Gallian Bldg.; Carolina Construction Co., Walker Bldg.; Potter & Shackelford, Allen Bldg., all Greenville, S. C.; C. M. Guest & Sons, Sharpe St.; Townsend Lumber Co., N. Travers St., both Anderson, S. C.; Southeastern Construction Co., 210 W. Second St., Charlotte, N. C.; J. Roy Crawford; J. Gary Martin, both Clinton; Jewell Riddle Co., Inc., Sanford, N. C.; Fiske-Carter Construction Co., 121½ W. Main St., Spartanburg, S. C.; Mechanics Contracting Co., Carolina Bank Bldg., Columbia; Anderson-Stiefel Construction Co., Aiken, S. C.; Clausen Lawrence Construction Co., 1394 Gwinnett St.; Frank Wheatley Co., Union Savings Bank Bldg., both Augusta. 5-22

Tenn., Clarksville — Second Baptist Church plans building.

Tenn., Kingsport — Baptists organized new church; plan bldg.; \$36,000 raised. Address Rev. D. Edgar Allen, Pastor, First Baptist Church.

Tex., Brownsville — Methodist Church erect \$60,000 bldg.; financing nearly completed.

Tex., Yorktown — Lutheran Church, Rev. Mr. Handkammer, Pastor, have plans complete about June 20 for \$50,000 bldg.; brick and rein. conc.; auditorium seat 500; Marvin Eickenroht & Bartlett Cocke, Archts., Maverick Bldg.; Beretta-Stiles Co., Inc., Engr., Natl. Bk. of Commerce Bldg., both San Antonio. 3-20

W. Va., Wheeling — Methodist Church, Rev. H. Hugheswagner, Pastor, 33 Eighth St., erect \$21,000 classroom addition; bids in.

City and County

Md., Rockville — Montgomery County General Courthouse Building Comsn., Capt. Chester A. Wells, Chmn. of sub-comm. on plans and constr., will have plans completed about June 15 for \$425,000 limestone courthouse and jail bldg.; monolithic columns, marble entrance hall, tile, cork and asphaltum floors, mahogany finish birch woodwork, probably walnut in courtroom, metal windows and screening, 20 elect. clocks, vapor heat; jail to accommodate 30 on top floor; Delos H. Smith, Archt., care Smith & Edwards, 1207 First St., N. W., Washington, D. C. 3-1

N. C., Asheville — Asheville Junior League erect \$12,000 cottage for babies, Buncombe County Children's Home.

Tex., Dallas — City Comsn. erect \$25,000 one-story South Dallas branch library, Harwood St. and Park Row.

Tenn., Knoxville — City may erect market, North Knoxville.

Tenn., Lexington — Mayor and Bd. of Aldermen plans \$20,000 city hall and fire station; 2 stories and basement, conc. and wood floors, comp. built-up roof; R. A. Heavner, Archt., R. C. R. Bldg., Jackson.

Tex., Bastrop — City Council erect brick city hall and fire station; approved plans. 3-27

Tex., Dumas — Moore County votes June 21 on \$150,000 courthouse bonds. Address Bd. of Comms.

Tex., Runge — City plans city hall and fire station building.

W. Va., Clarksburg — Harrison County Court, Maurice L. Loudin, Clk., and Advisory Board will probably select architect for \$750,000 courthouse on or soon after July 1. 5-29

Dwellings

Ala., Tuscaloosa — Edw. Rosenfield erect brick residence; 2 stories, 50x55 ft., comp. roof, hot air heat; Wm. Leslie Welton, Archt., American Tr. Bldg., Birmingham.

D. C., Washington — John M. King, 1008 11th St., N. W., has permit for 2 conc. block and frame dwellings, 3717-19 Twenty-sixth St., N. E.; 2 stories; \$11,000.

D. C., Washington — Lottie L. Rubel has permit for \$10,000 residence, 5035 Reno Rd., N. W.; brick and tile, 2½ stories.

D. C., Washington — Alfred T. Newbold, 5626 Connecticut Ave., N. W., has permit for \$15,000 dwelling, 4531 Twenty-eighth St., N. W.; 2½ stories, brick.

D. C., Washington — Wm. B. Caton, 2528 Pennsylvania Ave., S. E., has permit for \$10,000 residence, 1907-09 Minnesota Ave., S. E.; brick, 2 stories.

Fla., Boca Raton — Spanish River Land Co., C. Geist, Pres., Packard Bldg., Philadelphia, Pa., and Boca Raton, receives bids June 13 for 2 dwellings; \$25,000 each; 2 additional planned; Marion Sims Wyeth, Archt., Wyeth Bldg., Palm Beach; following contractors estimating: John B. Orr, Inc., N. E. Sixth St.; R. G. Witters Co., 1745 S. W. Seventh St.; John Construction Co., 629 N. W. Seventh St., all Miami; Jack C. Gaffney, Collins Ave., Miami Beach; Arnold Construction Co., Murray Bldg.; DaCamara-Chase, Inc., Plaza Bldg.; B. F. Hoffman, 12 Via Mizner; Harry R. Corwin & Co., Peruvian Ave., all Palm Beach; Wilson Construction Co., Guaranty Bldg., West Palm Beach. 5-1

Fla., Miami Beach — Raymond C. Penfield, erect \$25,000 residence, 5005 Apache Drive; rein. conc., conc. block and stucco, 85x52 ft.; Carlos B. Schoeppl and John & Le Jeune Rd., Coral Gables; plans complete.

Fla., Palm Beach — John R. Bryden, New York, and Jungle Nest, Chilean Ave., Palm Beach, ready for bids for Spanish type residence, Clarendon Ave., Vita Serena; stucco, stone trim; patio; Treanor & Fatio, Archts., Phipps Plaza, Palm Beach.

Fla., Palm Beach — Henry G. Barkhausen, Singer Place, ready for bids for 2-story Spanish type dwelling, Palm Beach Ave. and Via Del Mar; half-timber, 2 stories; Treanor & Fatio, Archts., Phipps Plaza. 5-22

Fla., Winter Park — Mr. Pierce, care D. Harold Hair, Archt., having plans drawn to remodel residence frame, 2 stories, tile floors; \$15,000.

Ga., Atlanta — Hoke Smith, Grant Bldg., has low bid at \$26,744 from Gilbert Beers, Bona Allen Bldg., for residence; Pringle & Smith, Archts., Norris Bldg. 5-29

Ga., Brunswick — Mrs. W. B. McKinnon erect residence on beach; Creole-Dipt shingles, 4 rooms, 2 baths, Carey roof, hot air heat, 2-car garage and servants' quarters; Kenyon Drake, Archt., 21 N. Ocean St., Jacksonville, Fla.; bids June 11.

Ga., Macon — St. Josephs R. C. Church has permit for \$20,000 rectory; Cecil C. Hayes, Archt.

Ga., Thomasville — W. Cameron Forbes, Upland Road, Boston, Mass., Worden E. Mack, Thomasville, representative, plans brick residence, outbuildings, stables for 20 horses and 2 polo fields on property near Thomasville.

Ky., Lothair — Algoma Coal Mining Co., E. D. Pritchard, Gen. Supt., rebuild 9 dwellings noted burned at \$15,000 loss.

La., Baton Rouge — Geo. E. Fenton, 335 St. Hypolite St., opens bids about June 19 for \$10,000 residence, Park Blvd.; 1 story, 41x67 ft., hardwood floors, conc. foundation, asbestos shingle roof; Robt. H. Goodman, Archt., Bank of Baton Rouge Bldg. See Want Section—Building Material and Equipment. 6-5

La., Eunice — Arnold Richard plans bungalow.

La., New Orleans — Harry P. Moran, 2325 Carrollton St., erect Colonial residence, Versailles Blvd. near Fontainebleau Drive; 2 stories, masonry, hardwood floors, hot water heaters, asbestos and tile roof; plans by Paul G. Charbonnet, 830 Union St.

La., New Orleans — Mrs. B. S. Dantoni, 6 Newcomb Blvd., erect \$20,000 residence, Palmer Ave. and Liberty St.; brick veneer, 1 story, rein. conc. foundation, slate roof, sheet metal work, hardwood floors, tile work, hot water heaters; Weiss, Dreyfous & Seiferth, Archts., Maison Blanche Bldg.; about ready for sub-bids.

Md., Towson, Baltimore — Mrs. Margaret E. Trimble, 8 W. Madison St., Baltimore, plans residence, 35-acre farm, Old Manor Rd. near Knoebel Corner, Dulany Valley; raze present dwelling.

Md., Baltimore — Geo. K. Seibert, 2654 Maryland Ave., plans residence, Northway opp. Wendover Rd., Guilford.

Md., Baltimore — Harry F. Page, 627 E. 30th St., erect dwelling, Broxton Rd. near Bellona Ave., Homeland.

Md., Baltimore — Cyril H. Hebrank, Archt., 3 E. Lexington St., completed plans for \$12,000 Colonial dwelling, 5406 St. Albans Way, Homeland; brick, 2 stories.

Md., Baltimore — Gunn, Williamson & Guy, Inc., 306 N. Charles St., plan dwelling, Taplow Rd. and Purlington Way, Homeland.

Md., Baltimore—Tom Rusow, 1700 E. Preston St., erect bungalow, Inglewood Ave. near Harford Rd.

Md., Baltimore—F. Earle Shriner, 1001 St. Paul St., plans residence, Osbury Rd., Gibson Island.

Md., Baltimore—Joe O. Wilson, 5400 Harford Rd., erect cottage, Inglewood Ave. near Harford Rd.

Md., Baltimore—Parkway Development Co., Munsey Bldg., plans 6 additional dwellings, Lakeshire.

Mo., Sappington—Henry C. Bender, 1102 Wilmington St., erect \$12,000 brick residence; 1½ stories and basement, 30x55 ft., hardwood floors, tile bath, vitrolite wainscot, shower, slate roof, hot water heat; Wm. L. Jackson, Archt., Buder Bldg., St. Louis. 6-5

Mo., St. Louis—Miss Hecker, care Geo. R. Bartling, Inc., Archt., Paul Brown Bldg., erect brick bldg., Conway Rd.; 2 stories and basement, about 60x35 ft., marble and tile work, shower, comp. shingle roof, hot water heat; Robt. Francis Denny, Asso. Archt., Paul Brown Bldg.

N. C., Wilmington—Geo. W. Kidder, 313 Ann St., erect brick and cast stone trim residence; 3 stories and basement, oak floors, rein. conc. floor slab, slate roof, leaded glass; Atwood & Nash, Inc., Archts., Chapel Hill; bids in.

S. C., Aiken—Bayard Warren, 53 State St., Boston and Westbury, N. Y., erect brick and frame residence; 2 stories and basement, oak and tile floors, conc. foundation, tile and asbestos roof; Peabody, Wilson & Brown, Archts., 140 E. 39th St., New York; contractor not selected. 6-5

Tenn., Memphis—Marx & Bendorf, 42 S. Second St., are agents for 3 persons who will erect dwellings; white painted brick and brick veneer, 1 and 2 stories and basement, 70x36 ft., 50x32 ft. and 60x40 ft., comp. and tile roofs, 2 and 3 tile baths, hot water heat; total \$50,000; Raymond B. Spencer, Archt., Court Square Bldg.; drawing plans.

Tenn., Nashville—Holy Family R.C. Church, Rev. Michel J. Neary, Pastor, has low bid for \$11,500 rectory, Seventh and Lea Sts., from J. J. Connors; brick veneer, 2 stories, 26x50 ft., comp. roof, hardwood floors, tile bath; Regan & Weller, Archts., Dermon Bldg.

Tex., Beaumont—Clyde McAnelly erect 6-room brick veneer residence, Voth Rd.; cast stone trim, hardwood floors, tile bath, green asbestos roof; Smith & Jones, Archts.; bids in.

Tex., Brownsville—Burt E. Hinkley, Sr., Leon Hinkley, and W. E. McDavitt erect residences.

Tex., Harlingen—Dave Traxler erect \$15,000 residence.

Tex., San Antonio—T. P. Morgan, Milam Bldg., plans residence, Alameda Circle, Olmos Park Estates.

W. Va., Charleston—Hugh G. Thompson, 220 Morris St., erect \$18,000 residence, Thomas Drive.

Government and State

Ga., Fort Benning—Constructing Quartermaster, Lieut. W. M. Allison, reported, plans 8 officers' quarters, 60 non-commissioned officers' quarters and hospital; \$1,200,000. 5-8

La., New Orleans—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans post office within year.

Miss., Stoneville—State Legislature, Jackson, passed bill providing \$37,500 for office bldg., Stoneville Experiment Station.

N. C., Fort Bragg—Constructing Quartermaster, Capt. Lawrence L. Simpson, receives bids June 24 for installation of branch terra cotta sewer lines and branch cast iron water lines both with house connections; information on request. 5-15

Tex., Duncan Field, San Antonio—Constructing Quartermaster soon let contract for constr. work; \$376,000.

Tex., Fort Bliss, El Paso—Constructing Quartermaster soon let contract for constr. work; \$150,000.

Tex., Fort Normoyle—Constructing Quartermaster soon let contract for constr. work; \$180,000.

Va., Quantico—Bureau of Yards and Docks, Navy Dept., Washington, D. C., receives bids June 21 for alterations to barracks officers' quarters (Bldg. No. 18, Marine Barracks); work includes brick work, lathing, plastering, steel and iron work, lumber and millwork, plumbing, heating, elect. work, roofing, marble and tile work.

Va., Richmond—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids July 7 for extension and remodeling (except elevators and elevator hatchway entrances) of post office, court house and custom house; separate bids same date for elevator plant; \$900,000; drawings from office Supvg. Archt. 5-22

Hospitals, Sanitariums, Etc.

D. C., Washington—District Commrs., Dist. Bldg., have low bid at \$329,000 from Castor & Castor Construction & Engineering Co., 4205 New Utrecht St., Brooklyn, N. Y., for nurses' home, Gallinger Municipal Hospital; A. L. Harris, Municipal Archt., Dist. Bldg. 5-15

D. C., Washington—Constructing Quartermaster, Army Medical Center, receives bids June 19 (extended date) for center unit of nurses' quarters, and utilities; plans, etc., from above. 5-22

Fla., New Smyrna—Benevolent Protective Order of Elks plan hospital; financing.

Ky., Fulton—Dr. C. W. Curlin, Hickman, purchased dwelling, Carr St.; remodel for hospital; install elect. elevators.

Ky., Lexington—United States Veterans Bureau, Arlington Bldg., Washington, D. C., has low bid at \$19,000 from W. C. Spratt, Fredericksburg, Va., for coal bunker and mech. stoker for \$1,500,000 U. S. Veterans Hospital; National Construction Co., Inc., Gen. Contr., Glenn Bldg., Atlanta, Ga. 5-13

Mo., Boonville—Missouri State Reformatory, Col. Theo. Ziske, Supt., plans \$35,000 hospital.

North Carolina—Clay, Cherokee and Graham counties consider erecting district hospital; R. Eugene Brown, Asst. to Commr. of State Bd. of Charities and Public Welfare, Raleigh, N. C., advises vote not yet taken on proposition by county commissioners.

Tenn., Bolivar — State, Richard H. Lyle, Commr. of Institutions, has low bid at \$258,300 from Batson-Cook Co., West Point, Ga., for hospital bldg., Western State Hospital for Insane; low bid for plumbing, Redmon Heating Co., 124 N. 4th St., Louisville, Ky., at \$44,292; heating bid, Hughes Heating Co., 672 Madison St., at \$36,135; elect. work, Tri-State Electric Co., 324 N. Willett St., \$28,475; elevator, Otis Elevator Co., 248 Court St., \$9747, all Memphis; Wyatt C. Hedrick, Inc., Archt., First Natl. Bk. Bldg., Fort Worth, Tex. 5-22

Tex., Amarillo—City, Ernest O. Thompson, Mayor, erect isolation hospital provided Potter County will permit structure to be built on grounds of Northwest Texas Hospital.

Tex., Austin—State Bd. of Control, Claude D. Teer, Chmn., receiving bids for dormitory, Austin State Hospital; rein. conc., brick and tile, 2 stories, 34x144 ft.

Tex., Brownsville — Mercy Hospital add third story to bldg.; \$17,000; E. G. Holliday, Archt.; drawing plans.

Tex., Galveston—Sealy & Smith Foundation, Dr. Edw. Randall, Chmn., Bldg. Comm., A. N. I. Bldg., having preliminary plans drawn for \$400,000 nurses' home; brick, and rein. conc., 3 and 4 stories, roof garden and 2 towers, Y shape; R. L. White, Archt., University of Texas, Austin. 12-5

Va., Richmond — St. Philip Hospital has \$120,000 gift for nurses' dormitory and educational unit, St. Philip Hospital School of Nursing; Baskerville & Lambert, Archts., Travelers Bldg.; plans drawn.

Hotels and Apartments

Ark., Siloam Springs—H. G. Hutchings, Hutchings Credit Co., reported, having plans prepared by Haralson & Nelson, Merchants Natl. Bank Bldg., Fort Smith, for brick and conc. hotel.

Ark., Yellville—William Johnson, Contr. and Bldr., Springfield, considering erecting hotel.

D. C., Washington—Harry Loveless, Archt., 1010 Vermont Ave., advises no information available regarding hotel to be erected near site of Congress Hall Hotel.

Fla., Daytona Beach—Henry W. Haynes has plans by E. F. De La Haye, Shelby Bldg., for \$20,000, 20-room addition to Princess Isseena Hotel. 6-5

Fla., Miami—John B. Wheat, Trustee for bondholders, care Burwell, Barrett & Sibley, First Natl. Bank Bldg., negotiating with interests who plan to take over and complete Roosevelt Hotel, N. E. Second Ave. and 14th St.; cost of building to date has been \$1,100,000.

Fla., Miami Beach—S. T. Corydon, 5900 Kenmore Ave., Chicago, Ill., and Miami Beach, has permit for \$25,000, 2-story, 104x34 ft., rein. conc., conc. block and stucco, 4-apartment, 2918 Royal Palm Ave.; Carlos B. Schoeppl and John & Coulton Skinner, French Village, LeJuene Rd., Coral Gables.

Fla., Miami Beach — John Cavanagh, 25 Medway St., Boston, Mass., and Miami Beach, reported, having plans prepared by Alexander Lewis, Lincoln Road Patio, Lincoln Road, Miami Beach, for \$750,000, 12-story and tower, struc. steel, rein. conc., fireproof, 342-room hotel, Ocean front between Pancoast Hotel and Firestone Estate; tile roof, tile, terrazzo, Travertine and cement floors; Belsham, Jorgensen & Shreffler, Struc. Engrs., Calumet Bldg., Miami; Maurice H. Connell, Mech. Engr., McAllister Hotel, Miami.

Fla., Miami Beach—Charles Van Antwerp, has plans by E. A. Ehmann, Realty Bd. Bldg., Miami, and ready for bids for 3-story, 40x129 ft., rein. conc., 50-room addition to Seashore Park Hotel, Ocean Drive between 8th and 9th Sts.; following contractors estimating: Continental Construction Co., Exchange Bldg.; St. John Construction Co., 629 N. W. 7th Ave.; Sandquist Construction Co., S. W. 27th Ave.; James Betteridge, 1976 N. W. 24th Court; E. L. McRae, Exchange Bldg.; Fred Howland, 1600 N. W. 14th St., all Miami.

Ga., Macon—Dempsey Hotel Co., N. M. Block, Pres., has plans by W. L. Stoddard, 50 E. 41st St., New York, for \$400,000, 200-room, fireproof addition to Hotel Dempsey; two stores on first floor to be occupied by Macon Shoe Co. and Rothchilds; second floor for convention and banquet hall.

Ky., Shelbyville—Chamber of Commerce promoting erection of tourist hotel.

La., Lafayette—Following contractors estimating on addition and alterations to hotel for Clifton Latiolas, bids June 17: General —J. A. Petty & Sons, Inc., Godchaux Bldg., New Orleans; F. Olivier & Son, 114 Bilbo St., Lake Charles; A. C. Stewart, 810 E. Boulevard St.; E. E. Rabalais, both Baton Rouge; J. B. Mouton, Lafayette; Plumbing—W. B. McCoy; Escudier Bros., both Lafayette; State Plumbing, Heating & Supply Co., Baton Rouge; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 5-29

La., Monroe—C. H. McHenry, Bernhardt Bldg., Sec., Jackson Harrison Co., receives bids June 17 for \$500,000, 11-story, 70x172 ft., rein. conc., brick and artificial stone trim, 250-room Hotel Frances; separate bids on plumbing, heating, electric wiring and elevators; Wyatt C. Hedrick, Inc., Archts., First Natl. Bank Bldg., Fort Worth, Tex.; following contractors estimating: J. V. & R. T. Burkes, Inc., Am. Bank Bldg.; O. M. Gwin Construction Co., 3503 Fern St.; Underwood Contracting Corp., Canal Bank Bldg., all New Orleans. 5-15

Tex., Brownsville—E. G. Holliday, Archt., preparing plans for group of apartment buildings to cost \$22,000.

Tex., Brownsville—J. W. Davis erect \$15,000 apartment; E. G. Holliday, Archt.

Tex., Fort Worth—Alvin M. Owsley, Republic Bank Bldg., Dallas, advises that there is no new development in North Texas Investment Co., Fort Worth, Tex., for new hotel building now; previously reported planning \$4,000,000 36-story structure. 2-6

Tex., Houston—Main-Walker Holding Co. chartered with Paul E. Wise, Pres.; E. A. Hester, Sec., both of Guardian Trust Co.; leased hotel property, Main and Walker Sts.; recondition hotel; new dining room and coffee shop equipment, provide sanitary kitchen, convert ground floor into store space.

Miscellaneous

D. C., Washington—University Club, G. F. Snyder, Pres., 15th and Eye Sts., N. W., erect 4-story, 85x80 ft., fireproof addition to club; tile and slag roof; A. P. Clark, Jr., Archt., 816 14th St., N. W.; M. S. Rich, Engr., Chandler Bldg. See Want Section—Building Material and Equipment. 4-10

D. C., Washington—District of Columbia Memorial Assn., Frank B. Noyes, Chmn., 1239 Vermont Ave., N. W., plans \$155,000 World War Memorial, West Potomac Park; to be white stone temple for band concerts.

Fla., Miami Beach—Surf Club, Inc., Maj. I. Barton, Sec., has low bid from John B. Orr Construction Co., 147 N. E. 6th St., Miami, for clubhouse, restaurant, cabanas, swimming pool and lockers, 90th St. and Ocean; \$500,000; Russell Pancoast, Archt., Lincoln Road, Miami Beach. 5-29

Fla., New Smyrna—New Smyrna Yacht Club, Commodore R. J. Christy, plans clubhouse.

Fla., Tampa—Tampa Yacht and Country Club erect clubhouse at Ballast Point; one story, hardwood floors, comp. roof; provide yacht basin, pier and breakwater; \$20,000; Frank W. Winn, Jr., Archt.

N. C., Charlotte—Charlotte Country Club plans \$200,000 clubhouse.

Tenn., Chattanooga—Florence Crittenton Home Bd. of Trustees, Mrs. T. M. Clemons, Pres., 198 S. Crest Road, has plans by William Crutchfield, First Natl. Bank Bldg., for \$20,000, 2-story, brick, fireproof hospital building; stone trim, tile and terrazzo floors. 2-13

Tex., Cuero—Cuero Country Club, Dr. F. W. Miller, res., plans \$10,000 clubhouse.

Tex., Tulia—Swisher County Fair Assn. plans agriculture building and other structures.

Schools

Ala., Frisco City—Bd. of Education erect 1-story, 217x179-ft., brick, struc. steel, stone trim, 16-classroom and auditorium school; bids in.

Ark., Dardanelle—Dardanelle Special School Dist., R. F. Waters, Supt., plans high school.

Ark., Fountain Hill—Fountain Hill Consolidated School Dist. Trustees plan brick school; also plan Smith-Hughes agriculture and home economics cottage and gymnasium.

Ark., Little Rock—School Bd. erect annex to Robert E. Lee School; Tom Harding, Archt., Donaghey Bldg.; bids in.

Ark., Marshall—Marshall Consolidated School Dist. Trustees plan high school.

Ark., Pea Ridge—Pea Ridge Special School Dist., J. P. Roulhac, erect 1-story and basement brick school; plans by archt. for State Dept. of Education, Little Rock.

Ark., Winslow—Washington County Bd. of Education, O. W. Bass, Supt., Fayetteville, soon let contract for 1-story and basement, stone, 7-classroom school.

D. C., Washington—Murphy & Olmsted, Archts., 1413 H St., N. W., previously reported preparing plans for \$200,000, 2-story stone hall for Catholic University of America, advises that project has been discontinued for at least a year. 12-6-29

D. C., Washington—Following contractors estimating on Buildings Nos. 1, 2, 3 and 4 of Women's Dormitory group at Howard University, bids June 18 by Department of Interior, John H. Edwards, Asst. Sec., Room 6117, Interior Dept. Bldg.: McCloskey & Co., 1620 Thompson St.; Wark Co., 1600 Walnut St.; Ralph S. Herzog, 10 S. 18th St.; Powers-Riddell Co., 1700 Sansom St.; Van Asdlen Construction Co., 1600 Arch St., all Philadelphia; Consolidated Engineering Co., 380 Fifteenth St., N. W.; C. A. Hofferberth Construction Co., Second and M Sts., S. W.; Standard Engineering Co., 2129 Eye St.; Casey Engineering Co., 18th and E Sts.; National Construction Co., Denlike Bldg.; Bruce E. Clark, 1510 Nineteenth St.; Geo. Hyman Construction Co., 1010 Vermont Ave.; Boyle-Robertson Construction Co., Evans Bldg.; Skinner & Garrett, 1719 I St., N. W., all Washington; Hallbauer-LaBohn, Inc., 844 Rush St., Chicago; W. Reid Hayden, 105 Cheapside St.; North-Eastern Construction Co., 6 W. Madison St., both Baltimore; W. P. Rose, Wayne Natl. Bank Bldg., Goldsboro, N. C.; Decatur Iron & Steel Co., Decatur, Ala.; Lee Paschall, Am. Natl. Bank Bldg., Richmond; A. I. Cassell, University Archt. 5-29

D. C., Washington—U. S. Government, W. B. Acker, Room 6121, Interior Dept., ready for bids about Aug. for \$240,000, 4-story, brick chemistry building at Howard University; plans by A. I. Cassell, Archt. for University. 8-8-29

Fla., Millville—Bay County Bd. of Public Instruction, C. C. Mathis, Supt., Panama City, receives bids July 7 for school; separate bids on plumbing and heating, and electrical work; plans from Walker D. Willis, Archt., Blount Bldg., Pensacola. 5-22

Fla., Winter Park—Following contractors estimating on two 2-story, brick, tile and stucco dormitories to cost \$50,000 at Rollins College, Dr. Hamilton Holt, Pres., letting date not set: Frank Helzel; Kinney Bros.; A. W. Spinney, all Winter Park; Howard C. Kiehl, 500 W. Central St.; Jas. J. Banks, 1015 Wilkinson Ave.; Jas. Peterson, Orleans Bank & Trust Bldg., all Orlando; Arthur Perry, Jr., Bisbee Bldg.; G. W. Hessler, 111 W. Ashley St.; R. W. Burrows, all Jacksonville; Klehnel & Elliott, Archts., Seybold Bldg., Miami. 6-5

Ga., Athens—University of Georgia, Chas. M. Snelling, Chancellor, ready for bids June 15 for \$100,000, 2-story and basement, 200x75 ft., rein. conc., struc. steel, brick and tile law building; stone trim, tile, terrazzo floors; Hentz, Adler & Shutze, Archts., Candler Bldg., Atlanta. 3-27

Ga., Atlanta—Georgia School of Technology, Dr. M. L. Brittain, Pres., has low bid at \$86,150 from Brazell & Miller, Norris Bldg., for 3-story and basement, 95x75-ft., rein. conc., tile and brick aviation building; limestone or terra cotta trim; Barrett, Carey or Johns-Mansville roofing; Bush-Brown & Bailey, Archts., care Architectural Dept., Georgia School of Technology. 5-22

Ga., Atlanta—General Board of Education, New York City, granted Atlanta University, John Hope, Pres., \$450,000 for library.

Ky., Graham—Graham Consolidated School Dist. has plans by Harry E. Boyle & Co., Furniture Bldg., Evansville, Ind., for \$40,000, 2-story and basement, 51x108 ft., brick school; stone trim, steam heat. 5-8

Ky., Richmond—Eastern Kentucky State Teachers College, G. M. Brock, Bus. Agent, receives bids June 21 for Charles F. Weaver Gymnasium; \$150,000, brick and steel, 100x200 ft.; seat 1500 people; C. C. & S. K. Weber, Archts., Ingalls Bldg., Cincinnati, Ohio. 5-22

La., Edgard—St. John the Baptist Parish School Bd. has plans by A. S. Montz, 740 Poydras St., New Orleans, and soon call for bids for 1-story, brick, 2-classroom addition and alterations to high school; \$25,000; built-up comp. roofs. 5-8

La., Haughton—Bossier Parish School Bd., Benton, receives bids July 3 for 3-room Rosenwald School at Haughton and for colored school at Ivan.

La., Monroe—Ouachita Parish School Bd., T. O. Brown, Sec., receives bids July 5 for \$125,000, 3-story and basement, rein. conc., brick and stone trim annex to High School; separate bids on mechanical work; cafeteria in basement, and auditorium on first and second floors to seat 1360; third floor for 9 classrooms; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg. 1-9

La., New Orleans—Orleans Parish School Bd., A. J. Tete, Sec., soon ready for bids for 167x67 ft., 8-classroom addition and improvements to Robert E. Lee School; \$75,000, brick, slate roof, steam heat; E. A. Christy, Supvg. Archt.

Md., Baltimore—Bd. of Public Improvement Coman., H. J. Leimbach, Supvr. Engr., having plans prepared by J. J. Zink, 2826 Overland Ave., for \$78,000, 3-story addition to Grade School No. 220, Washington Blvd. and Spruce St. 3-27

Md., Baltimore—St. Lee's R. C. Church, Thomas D'Alessandro, Jr., Chmn., Bldg. Comm., 26 S. Calvert St., soon let contract for \$75,000, 2-story, brick parochial school and Sisters' home, 221 S. Exeter St.; C. S. Distefano, Archt., 706 E. Chase St.

Md., Baltimore—Board of Awards, Room 324, City Hall, receives bids June 18 for \$25,000 improvements to Maryland Institute Bldg., Market Place and Baltimore St.; remodel north portion of ground floor for classrooms and lecture room; 60x135 ft. and 30x90 ft., wood floors. See Want Section—Building Material and Equipment.

Miss., Bay St. Louis—St. Joseph Academy has low bid at \$58,000 from Geary-Oakes Co., Queen & Crescent Bldg., New Orleans, for 2-story, 90x110 ft., brick gymnasium, auditorium, classroom and music room addition; E. F. Spori, Archt., Vincent Bldg., New Orleans. 5-29

Miss., Clinton—Clinton Consolidated School Dist. Trustees ready for bids in few days for 1-story, brick, 6-classroom, gymnasium and auditorium grammar school; steam heat; J. M. Spain, Archt., Merchants Bank & Trust Co. Bldg., Jackson. 5-15

Miss., Columbia—Bunker Hill Consolidated School Dist. Bd. of Trustees receives bids June 14 at office Marion County Supt. of Education for \$20,000, 1-story, brick school.

Miss., Duncan—Bd. of School Trustees has low bid from W. R. Ellis, Clarksdale, for \$50,000, 2-story, 216x54 ft., brick school; built-up comp. roof; 10 classrooms, auditorium to seat 400; Hull & Malvaney, Archts., Merchants Bank Bldg., Jackson. 4-24

Miss., Ellisville—Bd. of Trustees, Jones County Agricultural High School and Junior College receives bids June 26 for 2-story high school and remodeling 1-story economics building for teachers' home; bids on both buildings and on each building; separate bids on plumbing, heating, electrical wiring, general construction; bids also on complete building or buildings, including

plumbing, heating and electrical wiring; and bids for labor only on items above separately, and for building or buildings complete; plans from office Supt. of Education, Laurel, and L. W. Duffee, Archt., O'Ferral Bldg., Laurel. 5-15

Miss., Houlika—Houlika Consolidated School Dist. voted \$30,000 bonds for school. 5-15

Miss., Indianola—Indianola Ind. School Dist. Trustees, W. W. Lockard, Supt., erect 1-story, 52x181 ft., brick veneer school; Regan & Weller, Archts., Dermon Bldg., Memphis, Tenn.; bids in. 5-29

Miss., Mendenhall—Simpson County Bd. of Education, F. M. Ball, Supt., erect \$12,000 addition to Agricultural High School; several classrooms and auditorium; bids in.

Miss., Oxford—Mississippi Building Coman. W. C. Trotter, Sec., New State Capitol Bldg., Jackson, receives bids June 19 for power house, for heating plant and for heating connections, sewerage, electrical distribution and water to rear group of buildings at University of Mississippi; plans at office C. H. Lindsley, Archt., Jackson Tower Bldg., Jackson.

Miss., Smithville—Smithville Special Consolidated School Dist. voted \$30,000 bonds for high school and teacherage. 5-29

Miss., Woolmarket, R. D. from Biloxi—Woolmarket Vocational School Trustees receive bids June 16 (extended date) for \$24,000, 1-story, rein. conc. and brick school; John T. Collins, Archt., Biloxi. 5-29

Mo., Agency—Agency Consolidated School Dist. defeated \$28,000 bonds for high school. 5-29

Mo., Bolivar—Bd. of Regents, Southwest Baptist College approved plans for \$200,000 financial campaign.

Mo., Hollister—Bd. of Education, Wm. Stafford, Sec., plans \$22,500, 2-story, brick high school.

Mo., Ozark—Bd. of Education, Chas. F. Boyd, Sec., has plans by Wagenknecht & Boschen, Tootle-Lacy Bldg., St. Joseph, for \$40,000 addition to grade school.

Mo., Randles—Bd. of Education, L. O. Groseclose, Sec., erect 1-story addition and remodel school; bids in.

Mo., Springfield—Bd. of Education, A. R. Stewart, Sec., receives bids June 26 for first unit of Weaver Grade School, \$96,000, and \$82,000 Bailey Grade School; separate bids on general work, plumbing, sewerage and gas fitting, heating and ventilating apparatus, and electric work; plans from Sec., Bd. of Education, Springfield, Wm. B. Ittner, Inc., Bd. of Education Bldg., St. Louis, and Heckenlively & Mark, Landers Bldg., Springfield, Asso. Archts.; also erect addition and remodel Sr. High School; \$91,000, 3 stories, brick; Wm. B. Ittner, Inc., Archt., Bd. of Education Bldg., St. Louis; bids in. 4-24, 5-8

Mo., St. Charles—Bd. of Education, Chas. B. Mudd, Sec., erect 4-room, brick school, 6th and Perry Sts.; Wm. B. Ittner, Inc., Archt., Continental Life Bldg., St. Louis; bids in. 5-1

Mo., St. Louis—St. Louis University, Rev. Charles H. Cloud, S. J., Pres., erect \$400,000 building to house School of Commerce and Finance; 4 stories, 135x213 ft., Gothic architecture; plans to begin work in month.

Mo., Willard—Bd. of Education, O. L. Robertson, Supt., having plans prepared by Heckenlively & Mark, Landers Bldg., Springfield, for \$20,000, 1-story, brick high school addition. 5-29

N. C., Charlotte—Bd. of Education plans \$75,000, 12-room addition to Central High School.

N. C., Cornelius—Mecklenburg County Bd. of Education, Frank A. Edmondson, Supt., Charlotte, erect \$20,000 annex to school.

N. C., Fayetteville—George R. Berryman, 102 W. Hargett St., Raleigh, tentatively selected as architect of two buildings to be erected at State Normal School for negro students—dormitory to cost \$65,000 and elementary school which City of Fayetteville is to assist in erecting at cost \$70,000.

N. C., Newton—Catawba County Bd. of Education, J. A. Capps, Supt., considering erecting \$40,000 addition to school in Highland School Dist.

N. C., Paw Creek—Mecklenburg County Bd. of Education, Frank A. Edmondson, Supt., Charlotte, erect \$10,000, 4-classroom school at Oakdale in Paw Creek Dist.; bids in. 5-15

N. C., Weaverville—Weaver College Bd. of Trustees erect \$10,000 gymnasium.

N. C., Winston-Salem—Salem College, Dr. Howard Rondthaler, Pres., erect conc. stadium, gift of Virginia M. Welch, Waynesville.

Okla., El Reno—Bd. of Education, H. E. Wrinkle, Supt., ready for bids for \$30,000, 1-story, brick and conc. Irving School; Walter H. Vahlberg, Archt., Braniff Bldg., Oklahoma City. 4-24

Okla., Holdenville—Bd. of Education, R. E. Penny, Clk., receives bids June 20 for \$70,000, 2-story, 268x210 ft., brick school; wood floors comp. roof; Tonini & Bramblett, Archts. See Want Section—Building Material and Equipment. 6-5

Okla., Stillwater—Oklahoma Agricultural and Mechanical College, Dr. Henry G. Bennett, Pres., soon start work on another unit of Memorial Stadium to consist of 8 bays. 1-9

S. C., Denmark—Voorhies College, has plans by S. J. Makielski, Charlottesville, Va., for 2-story, brick and tile classroom building; comp. roof, stone trim.

Tenn., Knoxville—School Bd. remodel Knoxville High School; \$24,000; Ryno & Blackney, Archts., Brownlow Bldg.

Tenn., Knoxville—City votes Aug. 7 on \$300,000 bonds to be supplemented by \$150,000 each by Knox County and University of Tennessee, for joint auditorium, Clinch and Cumberland Aves.

Tenn., Johnson City—State Bd. of Education, Nashville, ready for bids about July 10 for following buildings at State Teachers College: \$150,000 library and \$25,000 heating plant for which Colle & Cardwell, Johnson City, are preparing plans; \$75,000 addition to dormitory for which R. H. Hunt Co., James Bldg., Chattanooga, is Archt. 4-17

Tenn., Memphis—American Missionary Society, 287 Fourth Ave., New York, has low bid at \$13,671 from E. G. Hodges, Cotton Exch. Bldg., for addition to academic building of Le Moyne Institute; Geo. Awsumb Archt., Dermon Bldg. 5-29

Tex., Austin—School Bd., A. N. McCallum, Supt., probably ask for bond issue in few months to provide funds for erecting junior high school, ward school and addition to several ward schools.

Tex., Austin—St. Paul's Evangelical Lutheran Church receives bids (locally), June 14 for 1- and 2-story, 31x79 ft., 2-classroom and auditorium, brick, rein. conc. and tile parochial school; also for addition and remodeling parsonage; 1 story, frame; Harvey P. Smith, Archt., Natl. Bank of Commerce Bldg., San Antonio.

Tex., Dalhart—Dalhart Ind. School Dist. Trustees receive bids June 17 for \$80,000, 12-room, auditorium and gymnasium East Ward School; J. Roy Smith, Archt., Blackburn Bldg., Amarillo. 5-22

Tex., Galveston—University of Texas, Austin, authorized Herbert M. Greene, LaRoche & Dahl, Construction Industries Bldg., Dallas, to prepare plans for \$350,000 addition to laboratory to accommodate medical and dental students; also for \$100,000 nurses' home for medical school.

Tex., Greenville—City voted \$15,000 bonds for additions to schools; address School Bd.

Tex., High Island—Galveston County Bd. of Education, O. E. Kennedy, Supt., ready for bids about June 15 for \$12,000 brick school.

Tex., Mercedes—Mercedes Ind. School Dist., R. H. Kern, Pres., Bd. of Trustees, has low bid from John Culper for 1-story, 165x19 ft., tile and stucco, 4-classroom addition to grammar school; wood floors, tile roof; R. Newell Waters, Archt., Security State Bank Bldg., Weslaco; W. E. Simpson Co., Engrs., Milan Bldg., San Antonio. 5-8

Tex., San Antonio—Bd. of Education, Dr. J. A. McIntosh, Pres., receives bids as follows: June 19—addition and remodeling Bonham Elementary School No. 10; June 23—addition and remodeling Washington Irving Jr. High School; P. G. Silber Co., Bedell Bldg., Archts. for both buildings; June 25—six-room addition to Mark Twain Jr. High School; June 27—auditorium addition to Ralph Waldo Emerson Jr. High School; Leo. M. J. Dielman, 306 E. Commerce St., Archt., for both; all buildings brick and rein. conc.; June 26—heating plant for 12 schools; Phelps & Dewees, School Archts., Gunter Bldg. 3-13 and 5-22

Tex., San Perlita—Santa Marguerita Ind. School Dist. Trustees erect 1-story, 9-classroom high school and 1-story, 6-classroom grammar school; both brick, tile and rein. conc.; tile, terrazzo and wood floors, steam heat; Robt. L. Vogler, Archt., Edinburg.

Va., Mitchells—Motley Construction Co., Farmville, low bidder on Mitchells School.

Va., Richmond—Medical College of Virginia, Dr. W. T. Sanger, Pres., plans \$125,000 library.

Va., Round Hill—School Bd. erect auditorium; plans by Raymond V. Long, Archt. for State Bd. of Education, Richmond; bids in.

Va., Petersburg—Virginia State College for Negroes, L. H. Foster, ready for bids for agricultural building; Chas. M. Robinson, Architects, Times-Dispatch Bldg., Richmond. 5-22

Va., Williamsburg—College of William and Mary, Dr. J. A. C. Chandler, Pres., receives bids June 24 at office Charles M. Robinson Architects, Times-Dispatch Bldg., Richmond, for Women's Dormitory No. 3; \$75,000; plans from office Architects, and Richmond and Norfolk Builders Exchanges. 4-10

Va., Wytheville—School Bd. erect \$30,000 athletic stadium at Wytheville High School.

W. Va., Charleston—Charleston Ind. Dist. Bd. of Education, Fred L. Teal Supt., has low bid at \$34,320 from Kuhn Construction Co., New Kanawha Valley Bank Bldg., for 5-room school on Littlepage Hill; has low bid at \$38,883 from Acme Construction & Realty Co., Kleeman Bldg., for 7-room structure; Warne, Tucker, Silling & Hutchisson, Archts., Masonic Temple. 5-22

W. Va., Keystone—Browns Creek Dist. Bd. of Education erect 6-classroom and auditorium addition to school at Keystone; bids in; also erect 7-classroom and auditorium addition to school at Maitland; Hassel T. Hicks, Archt., Welch.

W. Va., Maitland—See W. Va., Keystone.

W. Va., Malden—Malden Dist. Bd. of Education plans high school; election June 18 on \$110,000 bonds.

W. Va., Morgantown—State Bd. of Control, Henry N. Bradley, Pres., Charleston, received bids June 10 for steam tunnel and equipment to connect up new library at West Virginia University.

W. Va., Whitesville—Sherman Dist. School Bd. receives bids June 17 for junior high school; 22 classrooms, combination auditorium and gymnasium; plans by Wysong & Bengston, Archts., Professional Bldg., Charleston.

Stores

Ark., Pine Bluff—J. Walker Jones, Pres., Merchants and Planters Bank and Trust Co., has plans by Mitchell Selligman, 206 Pine St., and soon call for bids for reconstructing interior of 2 buildings, Main St. and Second Ave., for department store; 18,000 sq. ft. floor space.

Ky., Henderson—A. Mayer, reported, has plans by H. E. Boyle & Co., Furniture Bldg., Evansville, Ind., for \$150,000, 2-story and basement, 50x135 ft., brick and steel department store.

La., New Orleans—Singer Sewing Machine Co., 1018 Canal St., having plans prepared by Favrot & Livaudais, Hibernia Bank Bldg., for 3-story and basement, 28x120 ft., rein. conc., brick, stone trim store, 936 Canal St.; Colonial design; elevators, sprinkler system.

La., New Orleans—Moise H. Goldstein, Archt., Am. Bank Bldg., receives bids June 16 for \$12,000, 1-story, 42x136 ft., brick and frame store, 3426 St. Charles Ave., for N. Bellamore, 3425 St. Charles St.

Md., Baltimore—Frieda Fiedler remodel building, 3016 W. North Ave., for store and apartments; Charles T. McClure, Archt., 3315 Shelburne Road.

BUILDING CONTRACTS AWARDED

Association and Fraternal

Md., Baltimore—Alan P. Wilson, Falls Church, Va., has conc. steel form contract for \$1,000,000 Scottish Rite Temple; hauling cement, Zick Brothers, 705 S. Lakewood Ave.; Clyde N. & Nelson Friz, Archts., Lexington Bldg., both Baltimore; John Russell Pope, Const. Archt., 542 Fifth Ave., New York; Chas. L. Reeder, Mech. Engr., 918 N. Charles St.; C. H. Osborne, Struct. Engr., 222 W. Franklin St.; Price Construction Co., Contr., Maryland Tr. Bldg., all Baltimore. 5-8

Tex., Taft—Taft Labor Assn., G. G. Pina, Pres., erect labor temple, Gregory St. and Victoria Blvd.; fireproof, 25x75 ft.; assembly room, billiard room; contract let.

Bank and Office

Mo., Springfield—E. E. McJimsey, 461 S. National Blvd., let contract to W. W. Johnson, 301½ College St., to remodel 2-story

S. C., Charleston—James F. Condon & Sons, 431 King St., remodel and convert 3 buildings into one structure for department store.

S. C., Rock Hill—Belk Brothers plan to start work this summer on \$100,000, 64x129 ft., steel frame, brick store on Main St.

Tenn., Knoxville—Fidelity-Bankers Trust Co., M. D. Arnold, Pres., Trustees for Briscoe Estate, remodel Briscoe Bldg., Gay St. between Commerce and Union Sts., and change name to Terminal Bldg.; to be used for retail purposes; Manley & Young, Archts., Maplehurst Park.

Tenn., Memphis—Dillard C. Oppenheim, 243 Avalon St., plans \$23,000, 1- and 2-story, 40x120 ft., brick and rein. conc. store, Union Ave. and Watkins St.; comp. roof, conc. and wood floors; J. J. Broadwell, Archt., Sterick Bldg.

Tex., Dallas—Anderson Furniture Co., E. M. Anderson, Pres., 2101 Elm St., expend \$30,000 for expansion, redecorating and repainting store; provide 8000 sq. ft. additional floor space; place \$8000 Federal Neon sign in front of store.

Tex., Fort Worth—Ned Lydick, 2201 Windsor Place, has permit for \$20,000, 150x80 ft., brick and tile store, 3032 Hemphill St.

Tex., Houston—N. D. Naman, Second Natl. Bank Bldg., erect 1-story, 32x115 ft., rein. conc., hollow tile and brick, stone trim store, Richmond Road and Loretta St.; Joseph Finger, Archt., Democratic Bldg.; J. Weingarten, Inc., Lessee, 1502 Main St.

Tex., Lubbock—W. D. Green has permit for \$12,000 business building.

Va.-Tenn., Bristol—W. F. Daniel ready for bids for store and office building.

Theatres

Mo., St. Louis—D. Reichmann, care Wedemeyer & Nelson, Archts., Wainwright Bldg., erect addition and remodel theatre, 1310 Franklin Ave.; 3 stories and basement, brick, tar and gravel roof.

Tenn., Chattanooga—R. H. Hunt & Co., Archts., James Bldg., prepared plans for \$500,000 theatre, 6th & Market Sts.; 100x200 ft., fireproof; seat 2554 people; Claude Brown, local realtor, 111 E. Eighth St., negotiating with interests who plan to erect structure.

Tex., Lubbock—Mrs. G. T. Scales ready for bids about July 15 for \$200,00, 3-story, brick, tile and rein. conc. theatre; seat 1000 people; W. Scott Dunne, Archt., Melba Bldg., Dallas. 5-8

Va., Roanoke—Theatre Holding Corp., care Meyer & Engel, 1909 First Ave., Birmingham, Ala., erect 1-story, rein. conc. theatre; reported cost \$500,000; C. W. & Geo. L. Rapp, Archts., Engrs., Paramount Bldg., New York; address equipment proposals to Publix Theatres, Inc., Paramount Bldg., New York. 5-22

Warehouses

Fla., Winter Garden—B. R. Miller erect storage and building material warehouse, Tavares and Gulf R. R.; metal over pine frame; to be built in units; first unit to be 20x40 ft.

Tenn., Chattanooga—Eleventh Street Realty Co., plans \$15,000, 1-story, 30x135 ft., brick, fireproof building for Standard Brands, Inc., 118 E. 10th St.

office bldg., 300 block W. Walnut St.; \$20,000; Eugene F. Johnson, Archt. (lately noted Contr.), McDaniel Bldg. 5-29

Va., Norfolk—Virginia Electric & Power Co., 200 E. Plume St., R. J. Throckmorton, Vice-Pres., let piling contract for \$300,000 office bldg. at about \$6000 to Carpenter & Petrie, Citizens Bank Bldg.; plans not ready for gen. bids; steel or rein. conc., brick and Calrow, Browne & FitzGibbon, Archts., Roysterra cotta exterior, 6 stories, 75x118 ft.; ter Bldg. 5-15

Churches

Ala., Uniontown—First Baptist Church let contract at \$13,040 to J. A. Wood, Marion, for remodeling bldg.; 2 stories, about 70x30 ft., conc. and wood floors, comp. shingle roof, rein. conc. and conc. pile foundation; address proposals on furnishings, equipment, etc., \$2000, to J. S. Branyon, Chmn., Bldg. Comm., Uniontown. 5-29

Mo., St. Louis—Faith E. L. Church, Rev. Alfred L. Grewe, Pastor, 5041 Terry Ave., let contract to Acme Construction Co., Ry. Exch. Bldg., for auditorium and parish house; \$250,000 brick and stone, 1 and 2 stories and part basement, about 55x10 ft.; Aegerter & Bailey, Archts., Ry. Exch. Bldg. 4-17

Mo., St. Louis — St. James Evangelical Church let contract to Dickie Construction Co., Louderman Bldg., for brick, conc. and struct. steel community bldg., College and Blair Aves.; 1 story and basement, 62x140 ft.; T. P. Barnett Co., Archt., Arcade Bldg. 4-17

N. C. Charlotte—St. Lukes Lutheran Church, Avery R. Rhyne, Chmn., Bldg. Comm., 246 E. Trade St., erect \$28,000 bldg., Dilworth Rd., East and East Blvd., after plans by Mees & Mees, Johnston Bldg.; semi-fireproof, English type; auditorium seat 225, Sunday school 250; Southeastern Construction Co., Contr., 210 W. Second St. 5-29

Tenn., Knoxville—Church St. M. E. Church, South, 410 W. Cumberland Ave., P. O. Box 1311, H. L. Dulin, Chmn., Bldg. Comm., erecting \$500,000 bldg.; following death of H. A. Gervin, Contr., Fidelity-Bankers Trust Co., executor, let contract to Worsham Bros. Empire Bldg., to build church; rein. conc. struct. steel, stone, brick and tile, 2 and 3 stories and basement, comp. and slate roof; John Russell Pope, Archt., 542 Fifth Ave., New York; Barber & McMurtry, Asso. Archts. 10-31

Tenn., Kingsport—Baptist Church, Rev. J. L. Trent, Pastor, Lamont St., let contract at \$15,825 to Pile Bros. for brick bldg.; 3 stories, 40x about 70 ft., conc. foundation, asbestos roof; address proposals on furnishings, equipment, etc., \$3000, to W. L. Holyoke, Archt., Watauga St. See Want Section—Building Material and Equipment.

Tenn., Memphis—Bellevue Baptist Church, Frank O. Fuller, Chmn., Bldg. Comm., Fair Grounds, let contract to W. W. Wessell Construction Co., 388 N. Front St., for \$225,000 addition; rein. conc., brick and terra cotta, 2 wings, 155x43 ft. and 84x66 ft., 3 stories, 25 to 30 classrooms; Joe T. Wallace, Archt.; Ralph Dippel, Engr., both Bd. of Commerce Bldg. 5-8

Tex., Galveston—Trinity Episcopal Church, 712 22nd St., has permit for \$50,000 chapel; conc. and brick; J. W. Zempster, Contr., 1813 24th St.

Tex., Port Arthur — Memorial Baptist Church, Rev. Oscar Perkins, Pastor, erect \$38,500 hollow tile, brick and steel bldg., 16th St. and Shreveport Ave.; basement, auditorium and balcony, 100x68 ft., seat 1000; H. W. McCord, Contr., Adams Bldg.

City and County

Ala., Birmingham — Additional sub-contracts let on \$3,250,000 Jefferson County Court House on which exterior has been completed and within 2 weeks interior partitions, door bucks, elevator and dumbwaiter enclosures, metal lathing, plumbing, heating, wiring and ventilation will be completed: Architectural terra cotta, Atlanta Terra Cotta Co., Glenn Bldg.; plumbing, heating and ventilating, Loftis Plumbing & Heating Co., 45 Maugum St., both Atlanta, Ga.; orna. bronze, Michaels Art Bronze Co., Covington, Ky.; orna. and misc. iron and struct. steel, Ingalls Iron Works; common brick, Stephenson Brick Co., 2027 4th Ave., N.; tile partitions and glazed tile, Vulcan Tile & Brick Co., 2103 First Ave.; masonry work, J. R. Payne Co., 1353 14th Ave., S.; roofing and sheet metal work, Hinkle Bros. Co., 2412 Fifth Ave., S.; caulking, A. H. Moore Screen Co., 1400 Second Ave., N.; glass and glazing, Pittsburgh Plate Glass Co., 2901 Second Ave., N., all Birmingham; rein. steel, Truscon Steel Co., Youngstown, O.; elevator enclosures, furnished and erected by Paltridge Metal Equipment Co., 341 N. Crawford St.; hollow metal doors and steel door frames, Sykes Metal Products Co., 6036 S. State St., both Chicago, Ill.; models, Leo Friedlander, 2073 61st St., New York, and McNulty Bros., 1028 Vanburen St., Chicago; elevators and dumbwaiters, Otis Elevator Co., 600 W. Jackson St., New York; screens, Higgins Manufacturing Co., Newport, Ky.; jail work, Southern Prison Co., 4500 S. Presa St., San Antonio, Tex.; dumbwaiter doors, Peelle Co., Stewart & Flushing Aves., Brooklyn New York; ready mixed conc., Woodstock Slag Co., 2201 First Ave., N., and Sloss Sheffield Steel & Iron Co., American Trust Bldg., both Birmingham; metal laths, Berger Manufacturing Co., stone setters, Wilson-Winfrey Stone Co., Shreveport, La.; steel rolling doors, Kinnear Manufacturing Co., 736 Field Ave., Columbus, O.; Holabird & Root, Archts., 333 N. Michigan Ave., Chicago; Harry D.

Wheelock, Asso. Archt., Steiner Bldg., Birmingham; Southern Ferro Concrete Co., Contr., 70 Ellis St., Atlanta, Ga. 8-29

Tenn., Clinton—Anderson County Court let contract at \$33,800 to V. L. Nicholson Co., 102 W. Clinch Ave., Knoxville, for jail repairs; brick, conc. foundation, built-up roof; Manley & Young, Archts., Maplehurst Park, Knoxville.

Dwellings

Ala., Birmingham—Alvin Hungerford, 2623 S. Tenth Ave., erect brick veneer residence, Mayfair, 1-story, 40x45 ft., comp. roof, hot air heat, Jesse W. Green, Archt., Educational Bldg.; F. C. George, Contr., 902 Stuart St., Homewood.

Ark., Little Rock—Justin Matthews Co., 123 W. Second St., plans 100 dwellings, Park Hill, Sylvan Hills and Kellogg Acres during 1930 in addition to number under constr.; \$4000 to \$15,000 each.

Ark., Little Rock—Lloyd W. Judd, 200 Pearl St., plans number dwellings, Twelfth St. pike near Little Rock, in addition to 4 under construction.

Ark., Little Rock—J. A. Riggs, 3923 Oakwood Ave., care Arkansas Road Equipment Co., started work on \$10,000 residence, Edgehill Addition; brick veneer, 2 stories, tile roof, 9 rooms, Celotex; Wm. M. Van Valkenburg, Archt.; Sun Building & Developing Co., Contr., both 1801 N. Monroe St. 6-5

D. C., Washington—W. C. & A. N. Miller, 1119 17th St., N. W., have permits for 2 dwellings, 4344-47 Forest Lane; 3 stories; stone, brick and frame; \$23,500; owners build.

D. C., Washington—Edson W. Briggs Co., 1001 Fifteenth St., N. W., let contract to Allen J. Saville, Inc., Electric Bldg., Richmond, Va., for 2 dwellings, 1702-04 Kalmia Rd.; brick and stone, 2 stories, oak floors, slate roof; E. W. Cappelmann, Archt., Electric Bldg., Richmond.

D. C., Washington—Chas. D. Sager, Bldr., 924 Fourteenth St., N. W., erect 8 brick dwellings, 538-52 Twenty-third Place, N. E.; 2 stories, 17x31 ft., hardwood floors, conc. and brick foundation, tin roof; Geo. T. Santmyers, Archt., Tower Bldg.; D. H. Volland, Engr., 445 Quincy St., N. W.; address Owner. 6-5

Fla., Clermont—Geo. Beaville erecting residence and outbuildings, Tavares-Clermont and Howey Rds.; elect. water system; C. C. Hayes, Contr.

Fla., Jacksonville—Dr. Robt. B. McIver, San Marco Blvd., San Marco, erect \$16,000 residence, Palmer Ave., St. Nicholas Place; brick veneer, 2 stories, 8 rooms, circular tower; W. Kenyon Drake, Archt., Bisbee Bldg., W. T. Hadlow, Contr., 32 W. Forsyth St.

Fla., Lake Wales—Chas. A. Bucke, care Parsons, Walt & Goodell, 1 Beacon St., Boston, Mass., let contract to G. A. Miller, Inc., 312½ Twigg St., Tampa, Fla., for \$100,000 residence, Mountain Lake; hollow tile and stucco, 2 stories and basement, tile roof, interior marble and tile work. 4-24

Fla., Lake Wales—Mrs. W. H. Nichols, Jr., let contract to A. J. Albinson & Co., Bartow, for \$110,000 residence, Mountain Lake; Marion Sims Myeth, Archt., Wyeth Bldg., Palm Beach. 4-24

Fla., Miami Beach—Roy Routzahn, 1718 Bay Rd., soon start work on \$25,000 dwelling, N. Meridian Ave.; rein. conc., conc. block and stucco, tile and wood floors, tile roof, steel sash; Frank Wyatt Woods, Archt., Ingraham Bldg., Miami; day labor.

Fla., Miami—Mrs. Henry Houghton, 537 N. E. 65th St., erect \$10,500 residence, 650 N. E. 76th St.; rein. conc., conc. block and stucco, 2 stories, 54x58 ft., L shape, cement, tile, marble and wood floors, tile roof, wood sash; Jas. Betteridge, Contr., 1976 N. W. 24th Court.

Fla., Miami Beach — Seashore Building Corp., care G. C. Kirkland, 1244 Avenue Anastasia, Coral Gables; erect \$10,000 dwelling, 5415 Pine Tree Drive; Miami Beach; rein. conc., conc. block and stucco; John & Coulton Skinner, Archts., French Village, LeJeune Rd., Coral Gables; day labor.

Fla., Palm Beach—John Sanford remodel and enlarge residence, N. Ocean Blvd.; \$250,000; erect 7-car garage, swimming pool, etc.; Addison Mizner, Archt., 337 Worth Ave.; Rohan Co., Contr.

Fla., Tampa—Mrs. Mary C. Milner let contract to Geo. A. Fain, 3002 Angeles St., for \$18,000 brick and frame residence; first floor 43x46 ft., second 29x43 ft., conc., oak, pine and tile floors, conc. foundation, asbestos shingle roof; Couch & Parslow, Archts., 1006 Florida Ave. 6-5

Fla., Vero Beach—Robt. C. Rathborn, care John N. Bullen, Archt., Exchange Bldg., Miami, erect \$40,000 frame or tile residence and 3-car garage, Rio Mar.

Fla., Winter Park—Dr. John Martin; A. W. Spinney, Contr., Box 473, (lately incorrectly noted Archt.-Contr.), advises dwelling completed as far as plastering several yrs. ago; will not be finished until next winter. 6-5

Ga., Atlanta—W. A. Ozmer, Decatur, erect 2 brick veneer dwellings, 1720-24 Inverness St., N. E.; 1 story, 50x34 ft., comp. roof, 2 baths, steam heat; \$11,000; day labor.

Ga., Athens—Mrs. Sophia Myers, University Drive, \$10,000 residence, Milledge Ave.; brick veneer, comp. roof, conc. footings; G. M. Caskey, Contr., 1890 S. Lumpkin St.; excavating.

La., Eunice—Ulysse Ardoin started work on bungalow.

La., New Orleans—M. G. Trahan, Contr., 1017 S. Genois St., erect double residence, Telemachus and Dixon Sts.; asbestos roof, orna. iron.

Md., Baltimore—Saml. H. Hoffberger, 215 N. Calvert St., erect \$32,000 residence, 3401 Powhatan Ave.; brick, 3 stories, 70x90 ft., slate roof, vapor heat; plans and constr. by owner.

Md., Baltimore—Frank Novak Realty Co., 35rd St., erect 14 brick dwellings, 3300 block Shannon Drive; 2 stories; \$56,000; owner builds.

Md., Baltimore—John Welsh, 11 E. Fayette St., erect 5 brick dwellings and garages, 3903-05 Dolfield Ave. and 2521-25 W. Forest Park Ave.; 1½ stories, 26x31 ft. and 20x30 ft., slag and slate roofs; \$17,500; Geo. Wessel, Archt., 601 W. 40th St.; owner builds. 6-5

Md., Baltimore—City Real Estate Co., 11 E. Fayette St., erect 8 brick dwellings and garages, 3508-14 and 3528-34 N. Hilton St., 14 at 3509-35 Lynnhchester Rd., and 14 at 3508-34 White Chapel Rd.; brick, 2 stories, 20x30 ft. and 10x18 ft., slag roofs; \$180,000; Geo. Wessel, Archt., 601 W. 40th St.; owner builds. 6-5

Md., Baltimore—Wm. I. Norris, 8 E. Lexington St., erect 2 frame dwellings and garage, 3047-49 Northern Parkway; 1½ stories, 26x28 ft., hot water heat; Fred Kelbe & Son, Contrs.

Mo., St. Louis—McPherson Ave. Development Co. erect 3 brick dwellings, 6315-25 Windham St.; 1 story, 31x25 ft., comp. shingle roofs, hot air heat; \$10,000; Garison & Bradley Construction Co., Archt.-Contr., both 712 Chestnut St.

Mo., St. Louis—Frank W. Hillard, Pierce Bldg., let contract at \$29,000, exclusive of heating and elect. work, to J. A. Kuhn, 4046 Flora Blvd., for rein. conc. residence, Lake Forest; 2 stories, 40x80 ft., oak floors, conc. foundation, slate roof; M. Boulicault, Archt., Ambassador Bldg. See Want Section—Building Material and Equipment. 6-5

Mo., St. Louis—F. Hortleder, 1538 Mississippi St., erect 3 brick dwellings, 3201-05 Winona St.; 1 story, 26x46 ft., asphalt shingle roofs, hot air heat; \$18,000; owner builds.

S. C., Aiken—Fred H. Post erect \$10,000 addition to residence; frame, 8 rooms and bath, asbestos shingle roof, copper downspouts and flashing; A. Brian Merry, Archt., S. F. C. Bldg.; H. Anderson, Jr., Contr., 646 Reynolds St., both Augusta, Ga.

Tex., Houston—J. Hanson has permit for \$10,000 residence and garage, 2219 Quenby Rd.; brick veneer, 7 rooms; W. M. Hearold, Contr., 2824 Ruth St.

Tex., Houston—Harry C. Hanszen, Esperon Bldg., excavating for \$80,000 residence, 2945 Lazy Lane; brick and hollow tile, 2 stories, 85x24 ft. and 26x40 ft., wood and tile floors, conc. foundation, tile roof; John F. Staub, Archt., 4301 Main St.; Chris J. Miller, Contr., 3904 Austin St. 5-29

Tex., Houston — Alpha Corp., Alpha G. Meyer, Pres., erecting 2 brick veneer duplexes, 3202 Rosewood St., Feldman Court, and 1109 Crocker St., Bakerdale; built-in features.

Tex., Houston—F. Jopek let contract to I. Falls, 2301 Ruth St., for \$10,000 residence, 2908 Chenevert St.; 1 story, 43x65 ft., hardwood floors, conc. foundation, Johns-Manville asbestos slate roof; J. E. Hebert, Archt., 805 Calhoun Ave.; work started. 6-5

Tex., Pampa—J. M. Saunders erect \$50,000 English type residence near Pampa; brick, stone trim, timber and stucco, 14 rooms, boiler room, play room and shower in basement; Guy Carlander, Archt.; C. S. Lambie, Contr.

Tex., San Antonio—Mrs. Eloise T. Woodhull, care H. B. Thompson, Archt., Alamo Bk. Bldg., let contract to John Westerhoff, Milam Bldg., for English type residence; whitewashed brick veneer, 2 stories, 9 rooms, 2 baths, 2-car garage and servants' quarters; Fred Gaubatz, Asso. Archt., Alamo Bk. Bldg. 5-29

Government and State

Ga., Fort Benning—Constructing Quartermaster, Lieut. W. M. Allison, let contract at \$20,949 to J. B. McCrary Engineering Corp., Atlanta, for trunk and lateral sewer. 5-8

Tex., Fort Sam Houston, San Antonio—Constructing Quartermaster, Capt. Will R. White, Fort Sam Houston, let contract at \$875,848 to Banapach Bros. Construction Co., 250 W. Josephine St., San Antonio, for field artillery regimental barracks and 2 field artillery battalion barracks; rein. conc. struct. clay tile and stucco, 3 stories and basement, 84x208 ft. and 95x450.6 ft., conc. and linoleum floors, rein. conc. foundation, cast stone work, built-up and Mission tile roof, steel sash and trim, hollow tile, wire glass, brass and bronze work, plans by office of Quartermaster General, Washington, D. C.; engineering by Constructing Quartermaster. 3-29

Hotels and Apartments

Ark., Mountain Home—Will W. Johnson, 301 College St., Springfield, Mo., reported, has contract for \$25,000, 2-story, brick, 20-room hotel.

Fla., Miami—Chas. L. Craig, 227 N. W. Second St., soon start work on \$10,000, 3-story, 24x42 ft. apartment; owner builds, day labor.

Fla., Miami Beach—Van Ness Bros., 116 Fourteenth St., let contract to O'Neill-Orr Construction Co., 212 N. E. 4th St., Miami, for \$125,000, 5-story, rein. conc., conc. block and stucco, 100-room hotel, Ocean Drive at 14th St.; R. A. Preas, Archt., 325 Twenty-third St., Miami Beach. 5-22

Fla., St. Petersburg—Richard Chaffee soon start work on \$65,000, 3-story, 48x160 ft., brick, 70-room Hotel Hollander, 415 Fourth Ave.; Edgar Ferdon, Archt., Sumner Bldg.; C. C. Clarkson, Contr., 3035 Harper Circle, N. 5-29

Ga., Atlanta—H. W. Nicholes, 142 Brighton Road, erect \$80,000, 2-story and basement, brick veneer, 24-apartment, 10th St., N. E., near Piedmont Ave.; comp. roof, hardwood and tile floors, steam heat; owner builds, day labor.

Mo., St. Louis—J. P. Campbell, 5448 Rhodes St., erect \$12,500, 3-story, 34x59 ft., brick tenement, 5008-10 Cleatha St.; slate shingle roof, hot air heat; J. W. Miller, Archt.-Bldr., 4323 Loughborough St.

Miscellaneous

Florida—Bimini Enterprises, Inc., let contract to Ensley Construction Co., 33 N. W. Second Ave., Miami, for development island of South Bimini, 42 miles east of Miami, for pleasure resort; plans include opening harbor, improving docks and causeway, \$52,000; building brewery unit and hotel, \$306,000, and providing transportation facilities, \$80,000; total cost \$500,000.

Fla., Palm Beach—Palm Beach Anglers & Sports Club let contract to Dudley & Murphy, Wagg-Wilson Bldg., West Palm Beach, for \$20,000 addition; plans by Architect Raulston, Palm Beach. See Want Section—Miscellaneous. 6-5

N. C., Charlotte—Henry Hayman, 204 E. Trade St., erect \$40,000 meat market on Park Ave.; equip with cold storage plant and sausage factory; Willard G. Rogers, Archt., 510 E. Boulevard; bids in.

Schools

Ga., Blue Ridge—Bd. of Education, Ed. Johnson, Treas., let contract to Smith & Brown, Rome, for \$45,000, 1-story and basement, 184x152 ft., struc. steel and brick veneer, 14-classroom and auditorium school; Lockwood & Poundstone, Archts., and Edw. F. Billie, Asso. Archt., both Marietta Bldg., Atlanta. 5-29

La., Alluvial City—St. Bernard Parish School Bd., Mrs. L. A. Mercoux, 132 Angela Ave., let contract at \$26,848 to J. A. Haase, Jr., 916 Union St., New Orleans, for 1-story and basement, 50x90 ft., rein. conc., brick and tile, 6-classroom school; Wm. R. Burk, Archt., Balter Bldg. 5-29

La., Baton Rouge—State Plumbing, Heating & Supply Co., Inc., has contract for plumbing and heating for administration and auditorium building, hospital building and boys' shop at Louisiana State School for Blind for which W. M. Day, 1334 13th St., has general contract at \$81,687; Pavrot & Livaudais, Ltd., Archts., Hibernia Bank Bldg., New Orleans. 5-15

La., Shreveport—Centenary College let contract at \$52,923 to Ashton Glassell, Ricou Ave., for 3-story, rein. conc., brick, stone trim dormitory; Clarence W. King, Archt., Giddens Lane Bldg. 4-17

Md., Laurel—Brown-Fayre Co. has contract for 170 tons struc. steel for employees' building and superintendent's residence at District Training School near Laurel, for which Lee T. Turner, 1366 Perry Place, N. W., Washington, has general contracts at \$86,989 and \$22,467; A. L. Harris, Municipal Archt., Dist. Bldg., Washington. 3-27

Md., Sykesville—Carroll County Bd. of Education, M. C. H. Unger, Supt., Westminster, let contract at \$47,000 to E. E. Stuller, Taneytown, for 2-story, 140x74-ft., brick, cinder block and steel high school; B. E. Starr, Archt., 7 S. Second St., Harrisburg, Pa.

Miss., Jackson—Bd. of Education, E. L. Bailey, Sec., let contract at \$21,098 to Currie & Corley, Raleigh, for improvements to Junior-Senior High School; Claude H. Lindsley, Archt., Jackson Tower Bldg. 5-29

Miss., Mendenhall—Simpson County Bd. of Education, F. M. Ball, Supt., let contract at \$8447 to C. E. Westerfield for addition to Agricultural High School; auditorium and several classrooms.

Miss., Verona—Verona Consolidated School Dist. Bd. of Trustees, D. C. Lawhon, Sec., let contract at \$13,690 to Chas. L. Bucy, Plantersville, for 1-story, brick, 10 classroom and auditorium veneer school. 5-22

Mo., Kansas City—St. Francis Xavier Church, 5226 Troost St., pouring concrete for \$40,000, 2-story and basement, 6-classroom addition to St. Francis Xavier Parochial School, 53rd St. and Troost Ave.; Joseph F. Gler, Contr., 6000 Ward Parkway; Maurice Carroll, Archt., 713 Linwood Blvd.

Mo., St. Louis—St. Louis University, James J. O'Regan, Dir. Athletics, 221 S. Grand Blvd., let contract to Gamble Construction Co., 620 Chestnut St., for rein. conc., Walsh Memorial Stadium; first unit to seat 15,000 people; Osborn Engineering Co., Engr., 7016 Euclid Ave., Cleveland, Ohio. 5-29

N. C., Wilmington—Hanover County Bd. of Education let contract at \$79,667 to U. A. Underwood, Inc., Murchison Bldg., for additions and alterations to New Hanover High School. 5-22

N. C., Wilmington—Hanover County Bd. of Education let contract at \$118,663 to U. A. Underwood, Inc., Murchison Bldg., for 2-story, rein. conc., struc. steel, brick and tile building for Williston Industrial School; stone trim, comp. roof, tile and terrazzo floors; Lynch & Foard, Archts., Southern Bldg. 5-22

Okla., Bartlesville—Bd. of Education, L. A. Rowland, Pres., let contract to Lambert Construction Co., 1812 W. 16th St., Oklahoma City, for \$60,000 school in Washington Dist.; L. I. Shumway, Archt., Alexander Bldg., Tulsa. 5-1

Okla., Tulsa—School Dist. No. 13, near Tulsa, A. C. Smith, Pres., Bd. of Education, let contract at \$25,000 to E. C. Ross & Son, 711 E. 16th St., Oklahoma City, for 2-story, 105x100 ft., brick and stone school; asphalt roof, wood floors; A. J. Love & Co., Archts., Atco Bldg. 4-17

Tenn., Chattanooga—Hamilton County Bd. of Education receives bids June 19 at office Judge Will Cummings, County Courthouse, for \$30,000, 1-story, brick veneer, 6-classroom domestic science room and assembly school, Spears Ave. and Summer St.; comp. roof; Gordon L. Smith, Archt., Volunteer Bldg. 5-29

Tenn., Covington—Bd. of Education let contract at \$35,500 to C. H. Hill Lumber Co. for 2-story and basement, 73x32 ft., brick addition to Byar's Hall High School; Anker F. Hansen, Archt., Shrine Bldg., Memphis. 5-15

Tenn., Memphis—Following sub-contracts awarded on Southeast Junior High School, under construction, for which S. & W. Construction Co., Shrine Bldg., have general contract at \$242,308: Masonry, C. B. Lyon, 63 S. Third St.; struct. steel, Tri State Iron Works, 677 N. Main St.; bronze, Miller Cochran Co., 240 Court St.; fire doors, Pidgeon Thomas Iron Co., 94 N. Second St.; hardware, House-Bond Hardware Co., 101 S. Main St.; roofing, Bartholomew Roof-

ing Co., 164 S. Second St.; sheet metal, Jake Dermon Co., 122 Poplar St.; plastering, Whalen-Sutton Plastering Co.; marble, Malone & Scott Tile & Marble Co., 353 Walnut St.; linoleum floors, Bry-Block Mercantile Co., 89 N. Main St.; Bruce block floors, Superior Floor & Screen Co., 147 S. Third St.; glass and glazing, Pittsburgh Plate Glass Co., 435 Madison St.; building materials, Fischer Lime & Cement Co., 260 Walnut St., all Memphis; rein. steel, Connors Steel Co., Empire Bldg., Birmingham, Ala.; cut stone, Russellville Stone Co., Russellville, Ala.; toilet partitions, Henry Weis, Elkhart, Ind.; steel sash, David Lupton's Sons Co., Bona Allen Bldg., Atlanta, Ga.; folding partitions, A. C. Horn; E. L. Harrison, Archt., Fidelity Bldg., Memphis. 4-17

Tenn., Memphis—Bd. of Education, G. W. Garner, Sec., let contract at \$32,023 to R. W. Cocke & Son, 63 S. Third St., for 2-story and basement, brick and rein. conc. addition to Bellevue Jr. High School, and at \$33,466 for 2-story and basement, 6-classroom and auditorium, brick and rein. conc. addition to Rozell School; Jones & Furbringer, Archts., Porter Bldg. 5-8

Tex., Austin—University of Texas, H. A. Wroe, Chmn., Bd. of Trustees, announced that work will soon start on \$250,000 memorial archway; J. F. Johnson, Contr., 500 E. Third St.; Bd. of Regents approved construction \$750,000 library and \$600,000 classroom building. 8-1-29, 12-26-29

Tex., Brackettville—Brackettville Ind. School Dist., O. L. St. John, Pres., let contract at \$26,522 to W. W. Brown, 1718 W. Gramercy St., San Antonio, for 1-story, brick, rein. conc., fireproof high school and remodeling present structure; Henry T. Phelps, Archt., Hicks Bldg. 6-5

Tex., Del Rio—San Felipe Ind. School Dist., Santos Garza, Pres., let contract at \$34,000 to H. M. Hutchinson, Eagle Pass Lumber Co., Del Rio, for 1-story, 55x240 ft., tile, stucco and rein. conc. high school; Will N. Noonan Co., Archt., Builders Exchange Bldg., San Antonio. 5-29

Tex., Ingleside—Ingleside Common School Dist., W. L. Humphreys, Sec., let contract at \$16,498 to Cage Lumber Co., Ingleside, for 1-story, rein. conc., brick and tile addition to school; cement floors and steps; Hamon & Co., Archts., Medical & Professional Bldg., Corpus Christi. 5-29

Tex., Runge—Runge Ind. School Dist., O. M. Lewis, Pres., let contract at \$90,353 to P. F. Allan, 818 Ogden St., San Antonio, for 1-and 2-story, brick, steel and rein. conc. school; cast stone trim, cement, tile, comp. wood and linoleum floors; plumbing and heating, \$10,315, Wood & Jaecle, 1027 Burnett St.; electric \$3683, A. H. Shafer, 829 N. St. Mary's St., both San Antonio; Giesecke & Harris, Archts., Norwood Bldg., Austin; L. D. Royer, Archts., Engrs., Smith-Young Tower, San Antonio. See Want Section—Building Material and Equipment. 5-29

Tex., San Angelo—School Bd., Felix E. Smith, Supt., let contracts to H. L. McBride for following schools: San Jacinto School, \$10,179; J. H. Reagan, \$10,279; Santa Rita, \$5903; let contract at \$7000 to Will O'Connell for Fort Concho School; at \$11,536 to A. T. Cheaney for Stephen F. Austin School; Anton F. Korn, Archt., San Angelo Natl. Bank Bldg., San Angelo, and Thomas Bldg., Dallas; C. C. Alexander, Asso. Archt., San Angelo. 5-15

Tex., San Benito—San Benito Ind. School Dist. Trustees let contract at \$51,251 to Meriwether & Sauer, Harlingen, for 1-story, conc., rick and frame combination cafeteria and gymnasium; Phelps & De-wees, Archts., Gunter Bldg.; W. E. Simpson Co., Engrs., Milam Bldg., both San Antonio. 5-22

Va., Bridgewater—Bd. of Education erect \$35,000, 2-story, 6-classroom addition to Bridgewater High School; plans by Raymond V. Long, Archt. for State Bd. of Education, Richmond; bids in. 4-19

Va., University—University of Virginia let contract to J. R. Jones & Conquest, American Natl. Bank Bldg., Richmond, for \$300,000, rein. conc. athletic stadium; excavation, Pace Construction Co., Mountain Trust Bldg., Roanoke; seat 25,000 spectators; plans by John K. Peebles, 1111 W. Princess Anne Road, Norfolk; R. E. Taylor, Baltimore Trust Bldg., Baltimore; Walter D. Blair, 154 E. 61st St., New York; and Edmund S. Campbell, head of School of Art and Architecture at University, all alumni. 5-29

Va., Fredericksburg—Fredericksburg State Teachers' College let contract at \$113,872 to J. T. Nuckols & Co., 1102 E. Main St., Richmond, for brick building to have 2 dining rooms, faculty dining room, tea room and space for laboratory for home economics dept.; plans by Charles M. Robinson Archt., Times-Dispatch Bldg., Richmond. 5-22

Va., Petersburg—Virginia State College for Negroes erecting \$75,000, 2-story and basement, brick and conc. agricultural bldg.; terrace and tile floors, slate roof, foundation in; plans by Charles M. Robinson, Architects, Times-Dispatch Bldg., Richmond. 5-22

Stores

Ark., Magazine—Magazine Special School Dist. Trustees erect \$15,000, 1-story, brick veneer, 8-classroom school; A. S. Johnson, Contr., 1115 South C St., Fort Smith. 1-9

Ga., Atlanta—W. Stewart Witham, Jr., 337 W. Peachtree St., has permit for \$13,000, 1-story, brick and conc. store, 959-63 Peachtree St., N. E.; built-up roof; United Construction Co., Contr., Ga. Savings Bank Bldg.; McDonald & Co., Archts.-Engrs., Southeastern Trust Bldg.

Ga., Augusta—A. B. Von Kamp, Herald Bldg., let contract to Sibert & Robinson, 128 3th St., for \$50,000, 2-story and basement, brick store to replace recently burned structure comp. roof, stone trim; Willis Irvin, Archt., S. F. C. Bldg. 6-5

La., St. Joseph—Mrs. A. M. Steen erecting store building and filling station on Highway No. 65; Melton Construction Co., Contr.

Md., Baltimore—S. S. Kresge Co., Kresge Bldg., Detroit, Mich., has permit for \$45,000, 2-story, 40x115.4½ ft., brick store, 605-67 N. Gay St.; steam heat; owner, Archt.-Bldr. 5-22

Md., Baltimore—Schoen & Co., Inc., 214 N. Charles St., remodel 5-story building, Charles and Clay Sts., and 5-story building adjoining on Clay St. for department store; \$15,000; Consolidated Engineering Co., Contr., 20 E. Franklin St.; Lucius R. White, Jr., Archt., Court Square Bldg. 5-22

Mo., Kansas City—Louis Blond, 3600 Holmes St., erect \$35,000, 1-story, brick store, 3126 Troost Ave.; F. L. Winn Construction Co., Contr., Rwy. Exchange Bldg.

S. C., Columbia—Ben M. Webber, Webber Bldg., 1½-story, brick, stone trim store, 1513-15 Sumter St.; Lafaye & Lafaye, Archts., 1224 Sumter St.; J. L. Howle will superintend construction.

Tex., Dickinson—Herman Machles, 3017 R St., Galveston, started work on \$10,000, brick store; Fred Deats, Contr., Dickinson.

Tex., Fort Worth—Following sub-contracts awarded on \$250,000, 1-story and basement, 200x200-ft., brick, steel and rein. conc. department store for Leonard Bros., Marvin Leonard, 111 N. Houston St., for which Thos. S. Byrne, Inc., Fort Worth Natl. Bank Bldg., has general contract at \$199,750: Electric wiring, Miller Bros., 106 E. Second St.; millwork, Ingram & Co., W. T. Waggoner Bldg.; misc. and orna. iron, struc. and rein. steel, North Texas Iron & Steel Co., 1401 N. Adams St., all Fort Worth; steel forms, Steel Form Contracting Co., Construction Industries Bldg., Dallas; Wyatt C. Hedrick, Inc., Archt., First Natl. Bank Bldg., Fort Worth. 6-5

Theatres

Md., Baltimore—McHenry Theatre Co., Inc., has permit for \$20,000, 1-story, 55.2x79.8 ft., brick addition, 1032 Light St.; slag roof, steam heat; Oliver B. Wight, Archt., Munsey Bldg.; Henry Pierson & Sons, Bldr., 1000 Olive St.

Va., Lynchburg—Little Theatre, W. W. Averett, Jr., Chmn., Bldg. Chmn., Peoples Natl. Bank Bldg., let contract to Craighill & Showalter, Lynchburg Bldg., for \$20,000 building on Rivermont Ave. 6-5

Warehouses

Ala., Jasper—Alabama Power Co., Birmingham, soon start work on \$25,000, 60x100 ft. warehouse, 8th Ave. and 17th St.; 2 office rooms in front with storage rooms and garages in rear; locker and recreation rooms; brick, tar and gravel roof; plans and construction by owner.

Ky., Lexington—Lexington Leader started work on 2-story, brick, steel and conc. and stone warehouse, Church St. between Market and Upper Sts.; install equipment for unloading and handling of rolls of paper; Churchill & Gillig, Archts., Fayette Bank Bldg.

N. C., Durham—Standard Oil Co. of New Jersey, 26 Broadway, New York, let contract to Geo. W. Kane, F. N. Trust Bldg., Durham, for warehouse and loading platform.

THE CLASSIFICATIONS IN THIS SECTION ARE:

WANT SECTION

Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Boiler. — R. P. Johnson (Mchy. Dealer), Wythesville, Va.—Wants prices and data on 60 to 80-h. p. Economic type boiler, 125-lb. working pressure, complete with fittings.

Incinerators. — City, Boyce Wilsonant, Clk., Gaffney, S. C.—Wants prices and data from manufacturers of incinerators.

Undercutting Machines. —Newcoal Corp., B. F. Weber, Pres., Madisonville, Ky., being formed to develop 1000 acres—Wants prices and data on undercutting machines.

Razor Blade Stropping Machine. —H. & W. B. Drew Co., 45 W. Bay St., Jacksonville, Fla.—Wants prices and data on large commercial size razor blade stropping or sharpening machines; will purchase or lease.

Water Wheels. — Frank B. Cole, Consit. Engr., Box 563, Newnan, Ga.—Wants prices and data on 2 turbine water wheels, standard make, good condition, one about 17 in. and other 22 to 30 in.

Welders and Compressors. — Acme Steel Engineering Co., 917 S. Howard St., Baltimore, Md.—Wants prices and data on 350-ampere gasoline driven portable welders; 300-ampere electric driven welders; gasoline driven compressor, 125 cu. ft., 110 lb.

Woodworking Machinery. —W. S. Askew Co. (Lumber), Newnan, Ga.—Wants prices and data on modern machinery for manufacturing screen doors in volume.

Miracle Feed Mill, Bishop, Tex.—Wants prices and data on following:

- (1) Corn Chops Manufacturing Machine—different sizes
- (2) Screen—for clearing grains and chops.

Miscellaneous

Palm Beach Anglers & Sports Club, Palm Beach, Fla., wants prices on following.

- (1) Chairs and Tables—grill
- (2) Chairs, Tables and Umbrellas—40, patio
- (3) Lockers—200.

School Supplies, Equipment, etc.—School Board, Canton, N. C.—Wants prices and data on desks, steel chairs, teachers' desks, teachers' chairs, letter and card files for offices, library tables, library chairs, upright pianos, maps and globes, blackboard outline, window shades, stage curtains, small tables, for

Beaverdam and Morning Star Schools; June 30 to July 3 to be set aside for representatives of various firms to display equipment.

Building Material and Equipment

A. P. Clark, Jr., Archt., 816 Fourteenth St., N. W., Washington, D. C., wants prices on following for 4-story, 85x80 ft. addition to University Club:

Dumb Waiters
Electric Refrigerators
Elevators
Flooring—terrazzo, tile
Metal Doors
Roofing (flat)—built-up, tile
Terra Cotta Trim.
Tile—gypsum, hollow

Charles M. Robinson, Architects, Times-Dispatch Bldg., Richmond, Va., wants prices on following for \$75,000 agricultural building for Virginia State College for Negroes, Petersburg, Va.:

Cast Stone
Flooring—terrazzo, tile
Marble
Roofing—slate.

J. V. & R. T. Burkes, Inc., Contrs., Am. Bk. Bldg., New Orleans, La., estimating on following and want sub-contract bids and material quotations two days before jobs are to be let: United States Marine Hospital at New Orleans, bids June 24; Hotel Frances, Monroe, La., bids June 17; Wyatt C. Hedrick, Inc., Archt., First Natl. Bank Bldg., Fort Worth, Tex.; high school at Monroe, La., bids June 30; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., Monroe.

M. Boulicault, Archt., 1101 Ambassador Bldg., St. Louis, Mo., wants prices on following for \$29,000 dwelling:

Electric Refrigerators
Flooring—hardwood, linoleum, tile
Incinerator
Limestone
Roofing—slate.

McMichael Construction Co., Contr., City Bank Bldg., Shreveport, La., wants prices on following for \$35,000 addition to high school, Logansport, La.:

Flooring—cement
Limestone
Roofing—built-up
Tile—hollow.

Robt. H. Goodman, Archt., Bank of Baton Rouge Bldg., Baton Rouge, La., wants prices on following for \$10,000 dwelling:

Cast Stone
Flooring—hardwood, tile
Mail Chutes
Roofing—asbestos shingle
Tile—hollow.

W. G. Hammond, Bureau of Bldgs., City Hall, Baltimore, Md., wants prices on following for \$25,000 improvements in Maryland Institute Bldg.:

Brass and Bronze Work
Flooring—terrazzo
Limestone
Marble
Metal Ceilings
Roofing—built-up
Ventilators

Baumann & Baumann, Archts., 812½ Market St., Knoxville, Tenn., want prices on following for \$275,000 Elks lodge bldg.:

Cast Stone
Elevators
Flooring—hardwood, tile
Marble
Roofing (flat)
Tile—hollow
Vaults
Ventilators.

Glesceke & Harris, Archts., Norwood Bldg., Austin, Tex., want prices on following for \$100,000 school at Runge, Tex.:

Cast Stone
Flooring—tile, composition
Roofing—built-up
Steel Sash and Trim
Ventilators
Wire Glass.

Paul G. Silber & Co., Archts., Bedell Bldg., San Antonio, Tex., want prices on following for \$27,000 cafeteria building for Bd. of Education:

Electric Refrigerators
Roofing—built-up
Ventilators.

Paul G. Silber & Co., Archts., Bedell Bldg., San Antonio, Tex., want prices on following for \$38,000 addition to school:

Black Boards—slate
Cast Stone
Flooring—tile, composition
Roofing—built-up
Ventilators.

Rev. J. L. Trent, Lamont St., Kinsport, Tenn. wants prices on following for \$16,000 church:

Church Supplies
Dumb Waiters
Flooring—hardwood, linoleum, tile
Limestone
Marble
Metal Ceilings
Metal Doors
Plaster Board
Pulpit Supplies
Roofing—asbestos shingle
Seats
Sprinklers
Ventilators
Wire Glass
Brass and Bronze Work.

State Highway Dept., P. O. Drawer 660, Columbia, S. C. wants prices and data on following for 6 shops:

Cement
Lumber
Roofing—galvanized.
Tonini & Bramblett, Archts., Holdenville, Okla., want prices on following for \$70,000 school:
Flooring—hardwood
Limestone
Roofing (hip)—built-up
Tile—interior
Vaults.

Bids Asked

Airplane. — Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 20 for furnishing airplane to naval air station, Anacostia, D. C.; proposals at Bureau of Supplies and Accounts, J. J. Cheatham, Paymaster Gen. of Navy.

Bridge.—La Fayette, Ga. See Construction News—Roads, Streets, Paving.

Bridges.—State of Maryland. Bids for 2 bridges. See Construction News—Roads, Streets, Paving.

Bridges. — State of Georgia. Bids for 2 bridges. See Construction News—Roads, Streets, Paving.

Bridge. — Dallas, Tex. See Construction News—Bridges, Culverts, Viaducts.

Bridge Material.—Morehouse Parish Police Jury, J. W. Brodnax, Pres., Bastrop, La. Bids July 1 for 200 MBM creosoted lumber; 140 MBM untreated lumber; 22,000 lin. ft. creosote piling, delivered, Bonita, Gallion and Bastrop; J. Lester White, Parish Engr.

Bridge. — Austin, Tex. See Construction News—Bridges, Culverts, Viaducts.

Bridges.—Bastrop, La. Bids for 4 bridges. See Construction News—Bridges, Culverts, Viaducts.

Bridges.—State of Texas. Bids for 3 bridges. See Construction News—Roads, Streets, Paving.

Bridges, etc.—State of Arkansas. Bids for 19 bridges and culverts. See Construction News—Roads, Streets, Paving.

Builders Supplies.—Div. and Post Quartermaster, Purchasing and Contracting Branch, Fort Sam Houston, San Antonio, Tex.—Bids June 16 for locks, lumber, screen doors, wire screen, paints, wax, glass, paint brushes, paint spraying machine, etc.

Caliche.—See Road Building Materials.

Coal Burners. — Quartermaster, Fort McPherson, Ga.—Bids June 16 for furnishing and installing 9 automatic coal burners in heating plants.

Concrete.—U. S. Engr. Office, foot of Prytania St., New Orleans, La.—Bids June 17 for 50,000 cu. yd. concrete.

Dredge. — U. S. Engr. Office, Trust Co. Bldg. Galveston, Tex.—Bids June 20 for lease of light draft pipe line dredge, for maintenance dredging in Intracoastal Canal, between Pass Cavallo and Aransas Pass, Tex., and probably in channel between Pass Cavallo and Port Lavaca, Tex.

Dredging.—U. S. Engr. Office, Wilmington, Del.—Bids July 3 for dredging approx. 120,000 cu. yd. material in Inland Waterway, Delaware River to Chesapeake Bay, Del. and Md. (Chesapeake and Delaware Canal).

Elevator.—Treasury Dept., Jas. A. Wetmore, Acting Supv., Archt., Washington, D. C.—Bids June 30 for furnishing all labor and materials and installing electric passenger elevator in U. S. c. h., p. o., etc., Alexandria, Va.

Fuel Oil.—U. S. Engr. Office, Savannah, Ga.—Bids June 16 for fuel oil.

Fuel Oil.—U. S. Engr. Office, Mobile, Ala.—Bids June 17 for fuel oil as required during period July 1 to Dec. 31, 1931.

Gas.—Contracting Officer, Medical Section, Fort Sam Houston, San Antonio, Tex.—Bids June 18 for carbon dioxide gas, nitrous oxide gas and oxygen gas as required during fiscal year 1931.

Gasoline and Kerosene. — Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 16 for 13,000 gal. gasoline and 400 gal. kerosene.

Gas Works Equipment.—City of Richmond, Va., George H. Whitfield, Director — Bids June 16 for boiler, accumulator and blower for Fulton Gas Works; information on application Room 317, City Hall.

Grinding Wheels.—U. S. Engr. Office, Huntington, W. Va.—Bids June 16 for 72 vitrified grinding wheels.

Heating Systems.—Office of Division and Post Quartermaster, Fort Sam Houston, San Antonio, Tex.—Bids June 23 for installing individual heating systems in 11 buildings.

Hoisting Crabs.—U. S. Engr. Office, Jacksonville, Fla.—Bids June 17 for hand-operated hoisting crabs.

Impeller.—U. S. Engr. Office, 4400 Dauphine St., New Orleans, La.—Bids June 16 for cast steel pump impeller.

Levee.—U. S. Engr. Office, Memphis, Tenn.—Bids June 20 for constructing about 54,500 cu. yd. earthwork, St. Francis Drainage Dist., Clay and Green Counties, Ark., and Drainage Dist. No. 25, Dunklin County, Mo., on St. Francis River, vicinity Paragould Ark., and Kennett, Mo.

Lighting System. — Constructing Quartermaster, Army Medical Center, Washington, D. C.—Bids June 19 for emergency lighting system at Walter Reed general hospital.

Lumber. — Commanding Officer, Augusta Arsenal, Augusta, Ga.—Bids June 24 for approx. 29,000 ft. lumber.

Lumber. — Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 17 for furnishing lumber to naval power factory, Indian Head, Md.

Lumber.—See Bridge Material.

Miscellaneous. — Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids June 27 for following, Sch. 2567:

Motor bus, industrial truck, motorcycle, struc. steel, wire rope, insulated cable, fixture wire, panelboard, electric drills, fusible plugs, woodworking machine, etc.

Miscellaneous Machinery and Tools.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 17 for motor driven drilling machine; Bids June 24 for reamers, miter box, band, hand, cross-cut and compass saws, hacksaw frames and miter boxes.

Miscellaneous School Supplies. — Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids June 18 for health suite supplies, janitor supplies, machinery, tools and other materials for repair shop and vocational shops, for Dept. of Education; Joshua R. Jolly, Acting Secy., Bd. School Commrs.

Miscellaneous Machinery and Tools.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 17 for engine lathes, milling machine and bench lathe; bids June 24 for wrenches, countersinks and drills, tinsmiths' machines, balancing machines, electric babbitt melting pot and motor driven milling machine.

Motors.—U. S. Engr. Office, Memphis, Tenn.—Bids June 16 for 2 electric motors, 5 h. p.

Mud Shell.—See Road Building Materials.

Paint Material.—U. S. Engr. Office, Huntington, W. Va.—Bids June 17 for white lead, basic carbonate and paste.

Paving.—Houston, Tex. See Construction News—Roads, Streets, Paving.

Paper.—U. S. Engr. Office, Vicksburg, Miss.—Bids June 16 for 200,000 lb. commercial kraft paper.

Piling.—See Bridge Material.

Pipe (Cast Iron).—See Sewer Pipe.

Pipe and Iron Bender.—U. S. Engr. Office, Huntington, W. Va.—Bids June 17 for pipe and iron bender, of steel construction.

Pipe (Reinforced Concrete).—See Sewer Construction.

Pipe (Vitrified Clay).—See Sewer Construction.

Pipe (Cast Iron).—See Sewage Disposal Plants.

Pipes (Welded Steel).—See Sewer Pipe.

Plumbing Supplies. — Q. M. Corps, Fort Monroe, Va.—Bids June 16 for union, faucets, sinks, pipe, tees, lumber, nails, solder, elbows, etc.

Reinforcing Steel. — See Sewage Disposal Plants.

Reservoir.—Bureau of Yards and Docks, Washington, D. C.—Bids June 21 for 2,000,000 gal. rein. conc. reservoir and pipe line at Marine Barracks, Quantico, Va.; information on application.

tion on application.

Reservoir.—Bd. of Awards, Baltimore, Md. E. G. Rost, Water Engr.—Bids June 18 for clearing site of Prettyboy reservoir; specifications, etc. at office of water engineer, Room 501, Municipal Office Bldg.

Roads.—State of Arkansas. Bids for 5 roads. See Construction News—Roads, Streets, Paving.

Roads. — State of Maryland. Bids for 8 roads. See Construction News—Roads, Streets, Paving.

Roads.—State of Tennessee. Bids for 6 roads. See Construction News—Roads, Streets, Paving.

Road.—La Fayette, Ga. See Construction News—Roads, Streets, Paving.

Roads.—State of Texas. Bids for 6 roads. See Construction News—Roads, Streets, Paving.

Roads.—State of Georgia. Bids for 7 roads. See Construction News—Roads, Streets, Paving.

Road Building Materials.—Nueces County, F. A. Tompkins, County Auditor, Corpus Christi, Tex. Bids June 27 for furnishing 91,000 cu. yd. mud shell; 62,000 cu. yd. limestone; 21,000 cu. yd. caliche; Calvin E. Cocke, County Engr.

Road Building Equipment.—State Highway Dept., Columbia, S. C. Bids June 17 for following:

Trucks—10, 3-ton, with cabs, hydraulic hoists and metal three cu. yd. dump bodies

Trucks—20, Ford 1½-ton chassis with closed cabs

Dump Bodies—20, metal gravity, 1½ cu. yd. capacity

Portable unloaders — two, for handling stone from cars complete with gasoline engines, etc.

Portable elevating loader — for handling stone from stock piles, complete with gasoline engine, etc.

Roads.—State of Arkansas. Bids for 5 roads. See Construction News—Roads, Streets, Paving.

Roads.—State of South Carolina. Bids for 29 roads. See Construction News—Roads, Streets, Paving.

Road.—State of Texas. See Construction News—Roads, Streets, Paving.

Sewage Disposal Plants.—City of Charlottesville, Va., H. A. Yancey, City Mgr., Lee H. Williamson, City Finance Bldg., Const. Engr.—Bids June 28 for construction of 2 sewage disposal plants; work includes, 3000 cu. yds. earth excavation; 1750 cu. yds. rock excavation; 1300 cu. yds. rein. conc. masonry; 180,000 lbs. rein. steel; 96 tons, c. i. pipe and specials, gate valves and shear gates; vit. sewer tile; buildings; miscellaneous iron and steel; 450 cu. yds. sand and gravel for sludge beds; 3500 sq. ft. soapstone.

Sewer Construction.—Bd. of Awards, Baltimore, Md., Milton J. Ruark, Sewerage Engr.—Bids June 18 for sanitary sewers and storm drains in miscellaneous sewer districts, Storm Water Contr. No. 151; work includes rect. brick and conc. drain, rein. conc. pipe drain, vit. pipe sewer and drain; vit. clay liner plates; manholes, etc.

Sewer Pipe.—Sewerage and Water Bd., New Orleans, La.—Bids Aug. 5 for following: Contract 108-D, welded steel pipe for drainage station No. 9; Contract 113-D, traveling crane for drainage Station No. 9; Contract 206-S, welded steel pipe for sewer station D. Contract 207-S, cast iron pipes and fittings for sewer station D.; plans, etc., Room 401, 526 Carondelet St.

Spark Plugs. — Commanding Officer, Augustus, Ga.—Bids June 20 for 1500 spark plugs.

Street.—Fort Smith, Ark. See Construction News—Roads, Streets, Paving.

Street.—Birmingham, Ala. See Construction News—Roads, Streets, Paving.

Tanks (Oil).—U. S. Coast Guard Headquarters, Washington, D. C.—Bids June 16 for 125 66-gal. steel oil tanks, 125 110 gal., 125 120 gal., 40 120 gal., 90 280 gal.

Tractor. — Coast Guard Headquarters, Washington, D. C.—Bids June 20 for all-purpose crane tractor for Coast Guard depot, Curtis Bay, Baltimore, Md.

Trestles.—Corpus Christi, Tex. See Construction News—Bridges, Culverts, Viaducts.

Water Tanks.—City of Mannington, W. Va., R. E. Mockler, Clk.—Bids June 25 for furnishing materials and labor for constructing 2 steel water storage tanks, with covers, capacity 200,000 gal. each; information upon application, City Clk.

Waterway Structures.—Belzoni, Miss. Bids for waterway structures. See Construction News—Bridges, Culverts, Viaducts.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers, whether they are advertisers, or subscribers, or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

New Strand Representative.

N. A. Strand & Company, Chicago, Ill., manufacturers of flexible shafts and equipment, announce the appointment of Frecker Bros., Inc., 30 Church street, New York, as direct representatives for Eastern New York and Northern New Jersey, succeeding W. B. DaSilva.

Big Manufacturing Plant Offered.

By order of the court of common pleas of Stark County, Ohio, the Industrial Plants Corporation, liquidators, 25 Church street, New York, has been named as auctioneer to sell at public auction on June 24, the land and buildings, machinery and equipment, lumber, steel, supplies, etc. of the Fulton Pit Car Company, Canal Fulton, Ohio, about 10 miles from Massillon. Detailed auction catalogs may be obtained from the auctioneers.

Production of Oil Field Equipment Expanded.

W-K-M Company, Inc., Houston, Texas, manufacturers of oil field, pipe line, industrial and general utilities equipment, recently announced a \$400,000 increase in capitalization. Fred McManis, president of the company also announced the appointment of James A. Baker, Jr., Houston attorney, to the W-K-M board of directors.

The growth of this company typifies the expansion of numerous manufacturing firms in the South and Southwest during the last decade. Starting a little over 10 years ago with an invested capital of \$800, the business has now grown to be worth in excess of \$1,250,000, it is said. The company not only operates extensively in the United States, but also in foreign countries where certain of its oil field equipment and industrial machinery is in general use. It controls exclusively and owns outright many patents on tools and equipment for oil field use. A steady demand has been built up for its products in world markets.

Instructive Nail Exhibit.

"Do You Know Your Nails?" is the theme of an attractive display placed in the window of William H. Cole & Sons, Baltimore, by the American Steel & Wire Company's local agents, William H. Jennings and G. H. MacKelcan. Fifteen 100-pound kegs of as many varieties of nails form the background of the exhibit. Small groups of nails set at intervals in front of the kegs indicate the many types of fasteners made by the company. These groups include short thick foundry nails, long heavy steps for telephone and telegraph poles, boat spikes, blue plaster board nails, leakproof roofing nails, shade roller and shade nails, long slim galvanized nails for sheet roofing, basket nails, copper coated meat tag fasteners, blue hoop fasteners, clinch nails, sterilized blue nails, heavy galvanized tie dating nails, and zinc coated nails for asbestos shingles. Above and in front of the main portion of the display is a chart showing half size illustrations of the nails, spikes, staples and tacks manufactured by the American Steel & Wire Co., Chicago, which is a subsidiary of the United States Steel Corp.

New Edge Moor Sales Manager.

The Edge Moor Iron Company, Edge Moor, Del., manufacturers of water tube boilers, has appointed Harry L. Moody as general sales manager. Mr. Moody, a native of Newburyport, Mass., is a graduate of the Massachusetts Institute of Technology. He joined the sales department of the Westinghouse Machine Company in 1909 and upon the consolidation of that company with the Westinghouse Electric & Manufacturing Company, served the latter at its Philadelphia office as manager of the power division and later as sales manager of the central station division. In 1923 he became sales manager of the U. G. I. Contracting Company, Philadelphia, having charge of the development of new business along engineering and construction lines, with the exception of gas construction work.

Trustee Offers Yarn Mill.

By order of H. E. DePass, referee in bankruptcy, Spartanburg, S. C., Henry C. Moore, trustee, Gaffney, S. C., will offer at public sale at Gaffney on July 10 all real and personal property of the Globe Manufacturing Company, Gaffney, yarn manufacturers. The sale will cover 34 acres of land, frame, brick and iron buildings, 28 dwellings, store, building used for church, and other structures, in addition to yarn mill machinery and equipment, consisting of cards, spinning frames, winders and complementary machinery, with conditioning equipment and machine shop equipment. All machinery, including a fire pump, is electrically driven.

Sale of Machinery and Materials.

Acting under an order of Lucas County Court of Common Pleas, Toledo, Ohio, the Industrial Plants Corporation, liquidators, 25 Church street, New York, will sell at public auction June 25, all machinery materials, etc., of the Banting Manufacturing Company, 2401 Dorr Street, Toledo, manufacturers of threshing machinery. Everything will be sold piece by piece, the plant not being offered as a whole. Descriptive circulars may be obtained from the auctioneers.

Andrews-Frey Sales Company.

E. C. Frey, formerly general manager of the Harrisburg Pipe and Pipe Bending Company, Harrisburg, Pa., and F. D. Andrews, formerly general superintendent of the same company, have organized the Andrews-Frey Sales Company to handle cylinders for high pressure gases, steel billets and bars and other steel products. The offices are in the Lewis Tower Building, Philadelphia, Pa.

Legare to Resume Practice.

T. Keith Legare has resigned as vice president and sales engineer of the Carolina Concrete Pipe Company and will resume the practice of professional engineering, maintaining his offices in Columbia, S. C. The Carolina Concrete Pipe Company has plants in Charlotte and Lilesville, N. C., and Columbia and Greenville, S. C.

Earnings Increase \$12,000,000.

For the 12-month period ended April 30, 1930, consolidated gross earnings of the Engineers Public Service Company, Inc., New York, increased \$12,356,849 over the corresponding period last year, according to the company's report, figures for the 12 months ending April 30, 1930, being \$51,634,177. Consolidated net operating revenue for the period amounted to \$22,091,629, an increase of \$5,615,902, or 34 per cent. Constituent companies of the Engineers Public Service Company, Inc., include: West Virginia Electric and Power Company, Gulf States Utilities Company, the Western Public Service Company, Eastern Texas Electric Company, the Key West Electric Company, Puget Sound Power & Light Company, El Paso Electric Company, Savannah Electric and Power Company, Baton Rouge Electric Company and the Ponce Electric Company.

Tennessee Corporation on Dividend Basis.

Directors of the Tennessee Products Corporation, Nashville, Tenn., have placed the common stock of the corporation on a dividend basis by declaring an initial annual dividend of \$1 a share cash and stock dividend of 5 per cent. The forthcoming stock dividend will also carry with it the cash dividend of 25 cents a share on the 5 per cent additional stock so issued. Since its organization four years ago through the merger of important chemical, iron and wood products companies, the Tennessee Products Corporation has increased its total assets to \$11,000,000. Gross profits from operation in 1929 amounted to \$1,209,704.

Opens Houston Sales Office.

The Chicago Bridge & Iron Works has opened a new office in the Electric Building, Houston, Tex., in charge of J. R. Donaldson, formerly of the Dallas office. The company manufactures tanks, standpipes, steel plate work and other steel products. It also has offices in Birmingham and Atlanta.

Blaw-Knox Birmingham Office.

The Blaw-Knox Company, Pittsburgh, Pa., manufacturers of steel products, announce that William E. Balliet succeeds P. V. Kelly as manager of the Birmingham office in the Brown-Mark Building, and that Joseph Riley will become assistant manager of the district.

Trade Literature

Promoting Virginia Interests.—The spring number for 1930 of "Virginia," a publication of the Virginia State Chamber of Commerce, Richmond, for promotion of Virginia's varied interests, was recently issued. In addition to brief texts, the publication presents a large number of most attractive illustrations suggestive of the progress of the state.

Contractors' Equipment.—Littleford Bros., Cincinnati, Ohio, is distributing catalog F devoted to contractors' equipment, including asphalt kettles, of the oil-burning, wood and coal-burning types; heaters other than asphalt kettles, and miscellaneous equipment. The catalog also presents illustrations of equipment units of many types and their application to various types of work.

Forward Atlanta Movement.—A report of the Forward Atlanta Commission, organized about four years ago to administer a large public fund for advertising the city of Atlanta, has been published in book form. It presents a detailed statement of the administration of the Forward Atlanta Fund for the years 1926, 1927, 1928 and 1929, and in various sub-divisions deals with the origin and history of the movement, its organization and operating plans, its list of workers, and subscribers, analysis of results, report of the Finance Bureau, report of the Media Bureau, report of the Industrial Bureau and shows typical examples of advertising used during the four-year period.

Facts About Clermont. — The Clermont Chamber of Commerce, Clermont, Fla., has issued a folder presenting interesting facts regarding Clermont, with a number of illustrations showing the natural beauty of the town and its environs. Located in South Lake County, 56 miles equidistant from the Atlantic Ocean and Gulf of Mexico, Clermont is 165 miles south of Jacksonville on a new highway between that city and Tampa. It has 30 miles of paved streets, 24 to 36 feet wide, city water plant, community center, 17 fresh water lakes, municipal parks and playgrounds, public library and other facilities.

Air Compressors.—The Sullivan Machinery Company, Chicago, has issued catalog S3-R describing and illustrating Sullivan vibrationless portable air compressors, gasoline engine-driven, the line having recently been increased by the addition of a 66-foot model. This model and the 110-foot and 160-foot units are two cylinder, vertical machines, while the 220-foot and 310-foot units are four cylinder balanced twin machines. The compressors are driven by direct connection to a Buda 4-cylinder, 4-cycle engine, except the smallest unit in which a Continental engine is used. The catalog also shows Sullivan electric driven units.

First Aid Service. — The Policyholders Service Bureau of the Metropolitan Life Insurance Company, New York, has issued a booklet entitled First Aid Service in Small Industrial Plants. The publication is one of a series issued by the Industrial Hygiene Service of the Bureau dealing with the health of industrial and commercial workers and is designed to assist in the establishment of first aid service in plants employing fewer than 500 people.

Aeration and Mixing.—A booklet illustrating and describing the Aer-o-Mix has been issued by the Vogt Brothers Manufacturing Co., Louisville, Ky., manufacturers of this machine which combines the functions of an aerator and mixer and is adaptable to many waterworks systems. It is a self-contained unit in a wide range of sizes and capacities and in a number of cases may be installed with only minor changes in plant and equipment.

Carbon Products.—"Behind The Pyramids" is the title of a new booklet issued by the National Carbon Company, Inc., a unit of the Union Carbide and Carbon Corporation, New York, telling the story back of the well known trade-mark found on National Pyramid carbon brushes.

Portable Drill.—The Guibert Steel Company, Pittsburgh, Pa., has issued a booklet illustrating and describing the Togglebug portable drill for use in metal fabrication and other purposes. The drill is designed to meet a demand for proper drilling equipment in the fabricating industry and is described by its manufacturer as adaptable to practically all drilling requirements, reaming, countersinking, etc. Copies of the publication describing the unit may be obtained from the company.

Paradon Chlorinizer.—With the use of a prepared solution of chlorine, the Paradon chlorinizer manufactured by the Paradon Manufacturing Company, Arlington, N. J., is described by the manufacturers as particularly adaptable to the sterilization of the small water supply, such as is used by small municipalities, industrial plants, dairies, swimming pools, institutions, hotels and country estates. The chlorinizer is fully described in Engineering Bulletin No. 20-A issued by the company.

Central Cleaning System. — The Spencer Turbine Co., Hartford, Conn., has issued a booklet illustrating and describing the Spencer central cleaning system which serves industry in five ways, it is claimed—cleaning the factory at less cost, cleaning the power plant, removing dust at its source to prevent explosions and safeguard the health of employees, cleaning boiler flues and boiler rooms and removing excess material during the process of manufacture.

Arc Welding Sets.—A new publication describing Flex-Arc Welding sets, manufactured by the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., is designated by that company as leaflet 20390-B. A new and outstanding feature of these gas engine-driven welders is the "Flexactor," a reactance which is said to produce a steady, uniform and flexible arc at all currents.

Elevator Signals.—The Richards-Wilcox Manufacturing Company, Aurora, Ill., is distributing catalogue No. A-57 devoted to elevator signals, from the simplest mechanical re-set annunciator and mechanical dial indicator to complicated flashlight systems. The publication also describes systems in general use and gives details of various systems suitable for different classes of buildings.

Steel Hand Trucks.—A catalog describing and illustrating the standard line of American pressed steel hand trucks has been issued by the American Pulley Company, Philadelphia. Since the publication of the company's previous catalog, seven different types have been added to its line of trucks. A new and improved roller bearing rubber tired wheel is featured.

Panelboards and Switchboards.—The Frank Adam Electric Company, St. Louis, Mo., is distributing bulletin No. 40, illustrating and describing Switchfuz panelboards and switchboards, products of that company.

BIG FINANCIAL INTERESTS MERGE

Combined Assets Estimated at
\$615,000,000

Louisville, Ky.—The BancoKentucky Co. of this city, and Caldwell & Co., Nashville, Tenn., have merged with combined assets of \$615,000,000, according to James B. Brown, president of the former. The merger involves the acquisition by the BancoKentucky Co. of a half-interest in Caldwell & Co., while the latter secures a substantial interest in the BancoKentucky Co. The two institutions will retain separate headquarters at Louisville and Nashville. In addition to the Inter-Southern Life Insurance Co., controlled by Caldwell & Co., and the Bank of Kentucky, the Louisville Trust Co. and the Security Bank of Louisville, controlled by the BancoKentucky Co., the consolidated company will control the following: Brighton Bank & Trust Co. and the Pearl Market Bank & Trust Co., Cincinnati, Ohio; Peoples Liberty Bank & Trust Co. of Covington and the Central Savings Bank & Trust Co., of Covington, Ky.; Ashland National Bank, Ashland, Ky.; Bank of Tennessee, Nashville; Holston Union National Bank and Holston Trust Co., Knoxville, Tenn.;

American Exchange Trust Co., Little Rock, Ark., and other banking interests in Arkansas and Tennessee; Missouri State Life Insurance Co., St. Louis; Southwestern Life Insurance Co., Dallas, Tex.; Southeastern Life Insurance Co., Greenville, S. C.; Shenandoah Life Insurance Co., Roanoke, Va.; Home Life Insurance Co. and the Home Accident Insurance Co., Little Rock.

Contract for 7-Mile Rail Line Awarded

Williamson, W. Va.—General contract to build 7 miles of the Guyandot River line of the Virginian & Western Railway, a subsidiary of the Virginian Railway Co., Norfolk, Va., has been awarded to the Walton Sudduth Co., Bluefield, W. Va. Construction will extend from mile post 26 to 33 and will involve a 1300-foot tunnel, 400,000 yards of excavation and 8000 yards of concrete. The project for building the Guyandot River branch, inaugurated in 1928, is now well under way, with 19 miles completed, 7 miles under construction and 7 miles just let to contract. There will remain only 8 miles more to be constructed to connect Gilbert, W. Va., with the Chesapeake & Ohio line and a line the Norfolk & Western is building from Wharnclyff, W. Va., opening up a new coal field.

\$14,829,730 SCHOOL BUDGET**New Schools Planned for District of Columbia**

Washington, D. C.—A budget for 1932 submitted by the Board of Education to the District Commissioners provides for construction of three new elementary schools and two new junior high schools, in addition to repairs and enlargements and the purchase of sites for other new schools and the extension of playgrounds. A total of \$14,829,780 is involved, which is \$941,670 more than the 1931 budget incorporated in the District appropriation bill reported to the Senate. Of the total, \$3,083,000 would provide new buildings and \$656,500 additional sites. New buildings provided in the 1932 budget include: 8-room schools in the vicinity of Connecticut avenue and Upton street and in Burleigh or Glover Park, to cost \$200,000 each; 12-room addition to Janney School, \$200,000; 8-room addition to Truesdell School, \$140,000; wing to Macfarland Junior High School, \$200,000; 4-room addition to Orr School, \$80,000; 8-room addition with gymnasium and assembly hall for Harrison School, \$200,000; 16-room school on site of Giddings School, \$275,000; two new gymnasiums for Randall Junior High School, \$80,000; junior high schools at Eighteenth and Otis streets, northwest, and Seventh and H streets, southwest, to cost \$500,000 each; completion of Roosevelt High School, \$600,000; complete Northeast Junior High School, \$300,000; complete colored platoon school in northeast section, \$100,000; combination gymnasium and assembly hall for Whittier School and for Broad Branch Road school, \$50,000 each, and remodel Columbus Junior High School, Abbott Vocational School, old Business High School and Morse Elementary School, \$124,479. The budget provides for \$528,000 to install four new heating plants and improve existing units, and \$393,150 for equipping new schools.

Alcohol From Cane Bagasse

Results of research into the recovery of residual sugars from bagasse at the agricultural experiment stations of the Louisiana State University and Agricultural and Mechanical College show that the bagasse has a value of from \$3 to \$6 a ton as a source of alcohol, when used in conjunction with final molasses in the process of fermentation commonly employed in molasses distilleries. It was further revealed that by using bagasse a much more concentrated mixture of molasses may be fermented efficiently and that, calculated on the increased yields of alcohol, the bagasse under these conditions would have a

value of from \$12 to \$14 per ton, merely as an aid to fermentation.

The investigations were primarily to determine if the keeping qualities of bagasse could be so improved by removal of the sugars by fermentation that its deterioration could be entirely prevented or greatly reduced. Although still subject to deterioration, the spent bagasse was found to be rendered entirely insusceptible to this condition by a subsequent acetic fermentation.

\$5,000,000 ARMY HOUSING EXPENDITURE**Program of Third Corps Area a Part of \$44,000,000 National Schedule**

An Army housing program in the Third Corps Area, headquarters in Baltimore, which includes the District of Columbia, the states of Pennsylvania, Maryland and Virginia, calls for an expenditure of \$5,092,000 for work under way or soon to be let to contract. This schedule includes, for Southern work, the expenditure of \$60,000 for hospital improvements at the Aberdeen Proving Grounds, Md.; \$850,000 for officers' and nurses' quarters at Fort George G. Meade, Md.; \$3,000,000 for barracks, hangars, warehouses and other buildings at Langley Field, Va.; \$454,000 for officers' quarters, etc., at Fort Humphrey, Va., and \$468,000 for officers' quarters at Fort Monroe, Va.

Increasing Capacity of Oil Transport Line

The Westinghouse Electric and Manufacturing Co. recently received an order for 20 synchronous motors and control equipment to drive pumps in booster stations to be installed on an existing oil pipe line between Sand Springs, Okla., and Chicago.

Eighteen motors each rated at 800 horsepower will be installed in six stations, three units in each station, one unit being a spare. The motors will drive centrifugal pumps. One station will consist of two triplex pumps driven oil pipe line between Sand Springs,

This job is representative of the recent tendency in old pipe line operation. Frequently capacities of existing lines can be increased by the installation of motor driven booster stations. The motor control is magnetic, reduced voltage arranged to give definite time acceleration.

The 800 horsepower motors are cast frame bracket bearing motors and the 450 horsepower motors are completely fabricated by welding and have pedestal bearings.

Progress Recorded in British Cotton Growing

Manchester, England, May 29.—The Administrative Council of the Empire Cotton Growing Corporation in its report given today showed that the quantity of cotton grown excluding India during the season 1928-29 reached the record figure of 466,544 bales, an increase of 108,000 bales as compared with the previous year. In the last ten years Empire cotton crops has increased by more than 500 per cent. Indian cotton is growing in favor in European countries as a result of the lengthening of the staple and better grading and marketing.

Continental consumption of Indian cotton has risen from 475,000 bales in 1926-27 to 685,000 bales in the first half of 1929-30, while the consumption in the United Kingdom in the same period has risen from 48,000 bales to 161,536 bales. It had been decided to reduce the levy under the cotton Industry Act from 3d to 1d per bale from July 18, 1930, for a period of 12 months, when the question is again to be considered. This reduction does not imply any curtailment of the Corporation's activities, as there has been built up during the years when the levy was 6d per bale a fund to meet this increased expenditure.

Lord Stanley, reporting on his visit to the Punjab during the past winter, said he was very much impressed with the Lloyd barrage scheme, and mentioned that the total new area of irrigated land as a result of the scheme would amount to 3,657,000 acres. In this area there should result a big increase in production of high class cotton suitable to Lancashire.

At the meeting of the British Cotton Growing Association Lord Derby said:

"Despite the setback in certain countries, I am privileged to say that I have seen realized as I am approaching my twenty-first year as president of this Association the highest figure of the production of Empire-grown cotton that has so far been obtained. There are now ample supplies of Empire and other outside growths of cotton and with the deterioration in the quality of the American crop these cottons are becoming more popular amongst spinners.

"As regards the present season I am told that we may expect to receive a check in the production figures, principally on account of adverse climatic conditions in Africa. Of course, temporary setbacks caused through climatic and economic conditions, insect pests, etc., will occasionally arise and cannot be avoided. With such uncertainties I will not attempt to make any forecast, but I am afraid the production figures will certainly be less than for 1929."

\$55,000,000 for River and Harbor Work

Numerous Important Southern Projects Included in Work to Be Undertaken in Next Fiscal Year

Washington, D. C.—Carrying provisions for a total expenditure of \$55,000,000 for river and harbor work in the fiscal year of 1931, the War Department Appropriation Act was approved May 28. A complete list of allotments made from these funds, compiled by states and aggregating \$46,980,090, is contained in a bulletin issued by the National Rivers and Harbors Congress. A total of \$1,295,000 has been reserved for allotment to the Monongahela River after passage of the pending Rivers and Harbors Bill. Allotments for Southern states and Southern work have been made as follows:

DELAWARE: Inland Waterway, Delaware River to Chesapeake Bay, \$562,000.

DELAWARE, MARYLAND AND VIRGINIA: Waterway, Chincoteague Bay to Delaware Bay, \$500.

MARYLAND: Baltimore Harbor and channels, \$631,000.

DISTRICT OF COLUMBIA: Anacostia River, \$60,000.

VIRGINIA: Waterway on the coast, \$3000; Pamunkey River, \$13,000; Mattaponi River, \$10,000; Occoquan Creek, \$5,000; Rappahannock River, \$5000; York River, \$29,800; Norfolk Harbor, \$90,000; James River, \$196,400.

NORTH CAROLINA: Meherrin River, \$4000; Roanoke River, \$6000; Scuppernon River, \$5000; Pamlico and Tar Rivers, \$10,000; Neuse River, \$12,500; Swift Creek, \$700; Contentnea Creek, \$1000; Trent River, \$2100; Beaufort Harbor, \$12,500; Waterway, Core Sound to Beaufort Harbor, \$5000; Inland Waterway, Beaufort to Cape Fear River, \$850,000; Harbor of Refuge, Cape Lookout, \$2000; Cape Fear River—at and below Wilmington, \$360,000—above Wilmington, \$10,500; Northeast (Cape Fear) River, \$4000; Black River, \$2000.

NORTH CAROLINA AND SOUTH CAROLINA: Waccamaw River, \$4000.

SOUTH CAROLINA: Winyah Bay, \$30,000; Great Pee Dee River, \$7000; Waterway from Charleston to Winyah Bay, \$42,000; Santee River, \$10,000; Charleston Harbor, \$152,000; Waterway, Charleston to Beaufort, \$10,000.

SOUTH CAROLINA, GEORGIA AND FLORIDA: Waterway, Beaufort-St. Johns River, \$67,000.

GEORGIA: Savannah Harbor, \$700,000; Savannah River below Augusta, \$18,500; Altamaha, Oconee and Ocmulgee Rivers, \$29,000; Brunswick Harbor, \$106,000; Flint River, \$56,000.

GEORGIA AND FLORIDA: Chattahoochee River, \$20,000.

FLORIDA: St. Johns River—Jacksonville to the ocean, \$559,000—Palatka to Lake Harney, \$15,000; Oklawaha River, \$20,000; Miami Harbor, \$50,000; Key West Harbor, \$3000; Sarasota Bay, \$10,000; Channel from Clearwater Harbor through Boca Ciega Bay to Tampa Bay, \$13,000; Anclote River, \$9000; Tampa Harbor, \$78,000; Apalachicola Bay, \$30,000; Apalachicola River, the cut-off, Lee Slough and Lower Chipola River, \$10,000; Channel, Apalachicola River to St. Andrews Bay, \$4000; St. Andrews Bay, \$35,000; Pensacola Harbor, \$28,000; Removing water hyacinths, \$7000.

FLORIDA AND ALABAMA: Choctawhatchee River, \$10,000.

ALABAMA: Alabama River, \$125,000; Mobile Harbor, \$300,000; Black Warrior, Warrior and Tombigbee Rivers, \$44,500.

MISSISSIPPI: Pascagoula Harbor, \$71,000; Gulfport Harbor and Ship Island Pass, \$150,000; Biloxi Harbor, \$9000; East Pearl River, \$1000; Yazoo River, \$12,000; Big Sunflower River, \$7800.

LOUISIANA: Mississippi River—Southwest Pass, \$350,000—between Baton

Rouge and New Orleans, \$14,000; Intracoastal Waterway, New Orleans-Sabine River section, \$1,900,000; Barataria Bay, \$6000; Johnsons Bayou, \$8000; Tensas River and Bayou Macon, \$2500; Boeuf River, \$2500; Bayous D'Arbonne and Corney, \$2500; Removing water hyacinths, \$29,000.

TEXAS: Sabine-Neches Waterway, \$656,700; Intracoastal Waterway, Sabine River-Corpus Christi section, \$1,289,000; Galveston Harbor, \$105,000; Texas City Channel, \$175,000; Port Bolivar Channel, \$21,250; Houston Ship Channel, \$300,000; Double Bayou, \$10,000; Anahuac Channel, \$12,500; Cedar Bayou, \$6000; Freeport Harbor, \$75,000; Channel, Aransas Pass to Corpus Christi, \$160,000; Channel, Pass Cavallo to Port Lavaca, \$9500; Port Aransas, \$200,000; Brazos Island Harbor, \$8750.

ARKANSAS AND LOUISIANA: Ouachita and Black Rivers, \$65,000.

ARKANSAS AND OKLAHOMA: Arkansas River, \$27,500.

ARKANSAS: Red River below Fulton, \$50,000; White River, \$35,000; St. Francis and L'Anguille Rivers and Blackfish Bayou, \$8500.

ARKANSAS AND MISSOURI: Black River, \$20,000; Current River, \$2500.

MISSISSIPPI RIVER: Between Ohio and Missouri Rivers, \$1,700,000; between Missouri and Illinois Rivers, \$340,000; between Illinois and Wisconsin Rivers, \$1,700,000; between Wisconsin River and Minneapolis, \$1,185,000; survey 9-foot channel Upper Mississippi River, \$180,000.

MISSOURI RIVER: Mouth to Kansas City, \$4,900,000; mouth to St. Charles, \$180,000; Kansas City to Sioux City, \$2,250,000; Sioux City to Ft. Benton, \$10,000.

TENNESSEE RIVER: Below Riverton, \$90,000; above Chattanooga, \$40,000; Chattanooga-Hales Bar lock and dam, \$15,000; Hales Bar-Browns Island, \$150,000; Browns Island-Riverton, \$11,000.

A Larger Consumption of Cotton Dress Goods Reported

In interviews recently with a number of Baltimore dry goods dealers, the relationship between the increased demand for cotton goods and the enlarged consumption of cotton was emphasized. One concern reported that dress yardages for goods were as follows:

1924	.....9	yards per dress
1925	.....6	yards " "
1926	.....4½	yards " "
1927	.....3	yards " "
1928	.....3½	yards " "
1929	.....4½	to 5 yards per dress

The prediction is made by one of these stores that for the next two years, if not longer, there will be a heavy demand for cotton goods fabrics.

A department store head said:

"One reason offered for the increase in sales of cotton goods is the perfection of dyes. There was a time when one bought a piece of goods and there was no certainty that on returning from the laundry the original red dots might not appear as purple or greenish splotches. Today fast colors are guaranteed and customers are not risking time and money in preparing a tub-wardrobe or when buying draperies."

In one instance it was stated that if New York dress manufacturers make no radical changes in design, the increased

sales of cotton fabrics for dresses will continue.

Recently, the Cotton-Textile Institute, Inc., of New York, reported that the per capita consumption of cotton cloth is nearly 20 per cent greater than it was 30 years ago. The average annual consumption from 1899 to 1909 was 60 square yards per capita. In the next decade this average increased to 62 square yards. Since 1923 the annual per capita consumption has averaged 68 square yards, touching levels in 1923 and 1927 estimated in excess of 70 square yards per capita. The upward trend of cloth consumption was made in spite of drastic changes in fashion and fabrics required for wearing apparel. Extensive new markets for cotton goods for other purposes—notably in the manufacture of automobiles, artificial leather, rubberized fabrics and for home decoration—have more than offset any decline in the per capita consumption of cotton for wearing apparel.

However, the production also of cotton goods greatly increased in the past 30 years. In 1900 there were 19,472,000 cotton spindles operating in the United States. By 1928 they had increased to 33,569,000 operating spindles, or a gain of over 72 per cent. The South alone in 1928 had 18,303,000 cotton spindles in use, and this section in 1927 was producing 67 per cent of all cotton goods made in the United States. The world's cotton spindles increased from 104,250,000 in 1900 to 165,000,000 in 1928, a gain of 58 per cent. Therefore, while cotton consumption has increased in the past generation, the manufacture of cotton has likewise enormously expanded to the point, in fact, that any slight change in consumption causes great depression in the cotton industry.

\$1,000,000 Rail Line Begun

Hough, Okla.—The Beaver, Meade & Englewood Railroad Company, C. J. Turpin, vice-president and general manager, Oklahoma City, has awarded contract to the Panhandle Construction Co., Oklahoma City, to construct 40 miles of railroad westward from Hough. Grading has begun already and half the trackage is expected to be laid by August 1. The project will cost about \$1,000,000.

Plans Soon for \$800,000 Bank Addition

Richmond, Va.—The Federal Reserve Bank of Richmond, George W. Seay, governor, will soon call for bids on an \$800,000 addition to the present building. The structure will be 70 by 120 feet. Taylor & Fisher, Baltimore, are the architects.

LEADITE

Trade Mark Registered U.S. Pat. Office



Indianapolis Water Company—laying bell and spigot water mains with Leadite Joints.

“Performance”

The following, which are only a few of the many users of Leadite, advise they have laid over 1800 miles of water mains jointed with Leadite:

		SIZES	
Crumley, Jones & Crumley Company.....	200.00	Miles.....	4-in. to 36-in.
Dayton, Ohio.....	128.25	Miles.....	4-in. to 84-in.
Flint, Michigan.....	237.41	Miles.....	4-in. to 30-in.
Ft. Worth, Texas.....	192.85	Miles.....	4-in. to 36-in.
Indianapolis Water Company.....	150.00	Miles.....	6-in. to 36-in.
Louisville Water Company.....	165.82	Miles.....	Up to and including 48-in.
New Bedford, Mass.....	25.00	Miles.....	4-in. to 48-in.
Oklahoma City, Oklahoma.....	94.50	Miles.....	6-in. to 30-in.
Pennsylvania Water Company.....	110.00	Miles.....	4-in. to 42-in.
Philadelphia Suburban Water Co.....	230.00	Miles.....	Up to and including 24-in.
St. Louis, Missouri.....	90.00	Miles.....	Up to and including 36-in.
City of Tulsa, Oklahoma.....	37.00	Miles.....	6-in. to 36-in.
Washington Suburban San. Dist.....	150.00	Miles.....	Up to and including 24-in.
Total.....		1810.83 Miles	

This will give some idea of the extensive use of Leadite for jointing water mains.

*The pioneer self-caulking material for c. i. pipe.
Tested and used for over 30 years.
Saves at least 75%.*

THE LEADITE COMPANY
Land Title Building - - Philadelphia, Pa.



No Caulking



FINANCIAL NEWS

Bond Issues Proposed

Ala., Mobile—Mobile County, E. C. Doody, Clk., Bd. of Revenue, defeated \$1,100,000 bonds for road and bridge; J. R. Peavy, County Engr. 5-15

Fla., DeLand—Volusia County Bd. of Public Instruction receives bids June 18 for \$27,000, 6%, \$1,000 denom. Special Tax School Dist. No. 38 bonds. 5-15

La., Amite—Tangipahoa Parish School Bd., W. J. Dunn, Supt., receives bids July 1 for \$20,000, 6%, Tickfaw and Antioch School Dist. bonds. 4-24

La., Crowley—Drainage—Acadia Parish 1b-Drainage Dist. No. 2, votes June 16 on \$90,000 bonds. 5-15

La., Mount Herman—Washington Parish School Bd., D. H. Stringfield, Sec., Franklinton, receives bids in August for \$15,000, 5% bonds. 5-29

La., New Orleans—Levee Bd., A. L. Shush-shan, Pres., 3619 Versailles Blvd., plans receiving bids for \$2,200,000 seawall bonds. 5-29

La., Oak Grove—West Carroll Parish School Bd., R. A. Everett, Pres., receives bids July 8 for \$38,000, 6%, Expanded Forest School Dist. No. 3 bonds. 5-29

Miss., Clarksburg—Coahoma County Bd. of Suprvs. plans issuing \$40,000 Coahoma Dist. drainage bonds. 5-29

Miss., Clinton—School—City voted \$62,000 bonds. 5-29

Miss., Houston—Town, R. F. Brand, Clk., did not sell \$125,000, 6% general obligation bonds; lately noted bids May 23. 5-22

Miss., Houlika—Houlika Consolidated School Dist., Chickasaw County, voted \$30,000 bonds. 5-15

Miss., Indianola—City, Mayor and Bd. of Aldermen, called election for June 30 on \$30,000 water bonds. 5-29

Miss., Jackson—City considering \$1,250,000 bond issue for municipal improvements, including park. 5-29

Miss., Smithville—Smithville Consolidated School Dist. voted \$30,000 bonds; plans selling bonds. 5-29

Miss., Vicksburg—School—Warren County Bd. of Suprvs. plans \$50,000 bond issue for outstanding debts. 5-29

Mo., Agency—Agency Consolidated School Dist., defeated \$28,000 bonds; D. L. Staggs, Sec. School Bd. 5-29

N. C., Charlotte—Mecklenburg County Bd. of Education authorized \$100,000 bond issue; Frank A. Edmonson, Supt. of County Schools. 5-29

Okl., Guthrie—Water—City, Wm. V. Montin, Mgr., votes June 16 on \$355,000 bonds. 5-22

S. C., Charleston—Paving—City, W. S. Smith, Treas., receives bids June 16 for \$126,000, 4½%, \$1,000 denom. bonds. 5-29

Tenn., Brownsville—City plans voting soon on sewer bonds. 5-29

Tenn., Franklin—Water—City, Park Marshall, Mayor, receives bids June 16 for \$75,000, 5%, \$1,000 denom. bonds. 6-5

Tenn., Nashville—Park—City, Bd. of Park Commrs., Chas. M. McCabe, Chmn., receives bids June 17 for \$250,000, 4½%, \$1,000 denom. bonds. 5-29

Tenn., Savannah—Road—Hardin County Revenue Commrs., L. L. Herbert, County Judge, did not sell \$200,000, 5% bonds; lately noted bids May 27. 5-8

Tenn., Knoxville—Auditorium—City, Geo. Dempster, Mgr., considering voting Aug. 7 on \$300,000 bonds. 5-29

Tex., Brownsville—Brownsville Navigation Dist. voted \$1,500,000 port bonds. 5-6

Tex., Beeville—Bee County, Road Dist. No. 1, voted \$325,000 bonds. 5-8

Tex., Dimmitt—City Comsn. called election for June 24 on \$64,000 refunding bonds to take up water works warrants. 5-29

Tex., Dumas—Moore County votes June 21 for \$400,000 bonds; \$150,000, courthouse; \$250,000 roads. 8-5

Tex., Fabens—Water—City plans receiving bids in about 2 weeks for \$55,000 bonds. 3-20

Tex., Greenville—School—City voted \$15,000 bonds. 5-29

Tex., Houston—City, W. E. Montlieh, Mayor, plans issuing \$1,375,000 of \$5,650,000

bonds recently voted. \$750,000, water; \$500,000, sanitary sewers; \$200,000, drainage; J. M. Nagle, City Engr. 5-29

Tex., Irving—School—City voted \$40,000 bonds. 5-29

Tex., Miami—Road—Roberts County voted \$300,000 bonds. 5-15

Tex., Ozona—Crockett County receives bids June 30 for \$375,000, 5%, \$1,000 denom. bonds. 5-29

Tex., Raymondville—Willacy County, R. F. Dorsett, County Judge, voted bonds for roads in Dist. No. 5. 5-29

Va., Cape Charles—Municipal Building—City, A. F. Dize, Mayor, plans voting latter part of July on \$25,000 bonds. 5-29

Va., North Tazewell—City voted \$18,000 bonds; \$13,000, school; \$5,000 to purchase fire-fighting equipment. 5-29

Va., Oration—City votes June 17 on \$150,000 bonds; \$75,000, water; \$75,000 sewer. 5-29

W. Va., Charleston—State Bridge Comsn., A. C. Kimpel, Sec., considering selling soon revenue bonds for construction of 2 and purchase of one bridge. 5-29

W. Va., Hurricane—Sewer—City, H. A. Erwin, Recorder, plans selling \$35,000, not to exceed 6% bonds. 5-29

W. Va., Malden—Bd. of Education of Malden Dist., Kanawha County, Flavius Farrar, Sec., called election for June 18 on \$110,000 \$1000 denom. not to exceed 5½% bonds. 5-29

Bond Issues Sold

D. C., Washington—Washington Suburban Sanitary Comsn., T. Howard Duckett, Chmn., Tower Bldg., Fourteenth and K St. N. W., sold \$300,000, 4½%, Series "V" Dist. bonds at 100.538, jointly, to Stein Bros. & Boyce, Nelson, Cook & Co., Baker, Watts & Co., and Mercantile Trust Co., all Baltimore. 5-29

Ga., Atlanta—J. H. Hillsman & Co., and Citizens & Southern Co., both Atlanta, jointly, purchased \$7,500 street bonds at \$614 premium. 5-29

Ky., Louisville—Bd. of Education sold \$1,000,000 bonds at 100.01, to group headed by Chase Securities Corp., and including Kean, Taylor & Co., both New York, and Otis & Co., Cleveland, Ohio; \$295,000, 4%; \$705,000, 4½%. 5-15

Maryland—State of Maryland, John M. Dennis, Treas., Annapolis, sold \$2,245,000, 4½%, \$1,000 denom. bonds at 102.8212 and accrued interest, to Mercantile Trust Co., Baker, Watts & Co., Stein, Bros. & Boyce, all Baltimore, and Wallace, Sanderson & Co., New York; \$750,000, Post Road Loan of 1929; \$750,000, Bridge Loan of 1929; \$745,000, Special Road Construction Loan of 1929. 5-8

N. C., Sanford—Hospital—Lee County Commrs., John W. McIntosh, Clk., sold \$62,500, 5% bonds at \$62.918, to Wachovia Bank & Trust Co., Winston-Salem. 5-29

N. C., Sanford—City, Harvey Kennedy, Clk., sold \$50,000, 5½% paving bonds at \$50.670, to Seipp, Princell & Co., Chicago. 5-29

Okl., Bradley—Piersol Bond Co., Oklahoma City, reported, purchased \$12,000, 5 and 5½% Pursley Township road improvement bonds. 5-29

S. C., Fort Mill—Fort Mill School Dist. No. 28 sold \$75,000, 5% bonds to Peoples State Bank of South Carolina, Columbia, at \$376 premium. 5-29

S. C., Gaffney—Funding—Cherokee County Commrs., Joe H. Hall, Clk., sold \$75,000, 5%, \$1,000 denom. bonds, jointly, to Peoples State Bank of South Carolina, Charleston, Citizens & Southern Co., and J. H. Hillsman & Co., both Atlanta, Ga., and Merchants & Planters National Bank, Gaffney, at \$76,000 and accrued interest. 5-22

Va., Richmond—City, L. B. Edwards, City Comptroller, sold \$2,035,000, 4½%, \$1,000 denom. bonds to State Planters Bank & Trust Co., Richmond, Dewey, Bacon & Co., George B. Gibbons & Co., Inc., and First National Old Colony Corp. all New York, at \$2,113,754; \$500,000, street; \$400,000, sewer; \$635,000, school; \$250,000, general improvement; \$150,000 gas works; \$100,000, water. 5-22

New Financial Corporations

Ga., Columbus—Columbus Bank & Trust Co., capital, surplus and profits, \$1,800,000, formed with W. C. Bradley, Pres., by merg-

ing Columbus Bank & Trust Co., and Third National Bank. 5-29

Ga., Marietta—Citizens National Bank in Marietta, capital \$100,000, chartered; J. R. Fowler, Pres.; Fred Legg, Cashier; conversion of Citizens Bank of Marietta. 5-29

La., Winnfield—Bank of Commerce, capital \$25,000, chartered; A. L. Bryan, Pres.; A. Scot, Cashier, absorbed First National Bank. 5-29

Md., Reisterstown—Peoples Bank of Reisterstown, Brooks Bldg., capital \$50,000, opens today; T. E. Steffey, Pres.; John F. Wineke, Cashier. 5-29

Miss., Indianola—Merchants Bank & Trust Co., capital \$50,000, organized; I. L. Gaston, Pres.; A. C. Cox, V.-P. 5-29

Mo., Kansas City—John P. Wayland & Co., Inc., capital \$25,000, chartered; Brougham Wayland, Hunt C. Moore, Harwell A. Ault; stocks, bonds. 5-29

Mo., St. Louis—Flora Finance Co., Inc., capital \$25,000; Dorothy Gordon, Eleanor David, Herbert Boxerman. 5-29

N. C., Greensboro—Home Industrial Bank, temporary location, Southern Life & Trust Bldg., capital \$250,000, organizing; Clyde Kiser, Greensboro Bank Bldg. 5-29

Tenn., Columbia—Middle Tennessee Bank, capital \$150,000, opened; J. L. Hutton, Pres.; Van Shapard, Cashier; formerly Columbia Bank & Trust Co. 5-29

Tenn., Nashville—Winn & Campion Investment Co., chartered; E. L. Winn; J. E. Campion. 5-29

Tex., Lockney—First National Co., First National Bank Bldg., capital \$25,000, organized; Artie Baker, Pres.; M. R. Snyder, Cashier. 6-5

Bank of Hartsburg, L. Busch, Pres., consolidated with Farmers Bank, J. A. Alexander, Pres., both Hartsburg, Mo. 5-29

Bd. of Directors of Farmers & Drovers Bank, E. C. Giltner, Pres., and of Deposit Bank, H. H. Drane, Pres., both Eminence, Ky., approved consolidation of banks to be known as Farmers Deposit Bank of Eminence, \$40,000 capital; awaiting ratification of stockholders. 5-29

Citizens Exchange Bank, Inc., West Point, Va., changed to Citizens Exchange Bank & Trust Co., changing par value of shares from \$100 to \$25; trust powers added. 5-29

Directors of Drovers and Mechanics National Bank, Heyward E. Boyce, Pres., Continental Trust Co., W. J. Casey, Pres., and Maryland Trust Co., L. S. Zimmerman, Pres., all Baltimore, Md., approved merger of 3 banks to be known as Maryland Trust Co., with combined capital of \$3,500,000, and Heyward E. Boyce, Pres.; merged institution plans occupying Maryland Trust Bldg. as headquarters, and Drovers and Mechanics National Bank as branch. 5-29

Liberty National Bank, P. W. Goebel, Pres., and Fidelity National Bank, Henry C. Brent, Pres., both Kansas City, Mo., consolidated with total capitalization of \$6,200,000; will occupy proposed new building at Ninth and Walnut St.; Henry C. Flower, Chmn. of Bd.; John F. Downing, Chmn. of Executive Committee; Lester W. Hall, Pres. 5-29

North Arkansas Bank, A. B. Banks, Pres., acquired assets of First National Bank, both Batesville, Ark.; opened as North Arkansas Bank, in First National Bank Bldg. 5-29

R. T. Moore, Chmn. of Bd. of Commercial National Bank, and associates in Bank, Shreveport, La., purchased control of First National Bank in Gibsland, H. A. Sherman, Pres., Gibsland, La.; directorate includes J. P. Nelson and Fred Sutton, Gibsland. 5-29

South Carolina National group, Socarnat Bank Corp., Robert S. Smith, Pres., 16 Broad St., Charleston, S. C., acquired First National Bank, J. F. Folk, Pres., Holly Hill, S. C., making total assets over \$5,000,000 and resources over \$50,000,000. 5-29

Taylor, Easterling & Co., Inc., Tulsa, Okla., have underwritten \$10,000,000 stock issue of United States Bank Shares, Inc., to control more than 10 Oklahoma banks. 5-29

"THE ATMOSPHERE OF YOUR BANK"

said a customer recently, "is not cold, but radiates cheerfulness and helpfulness."

That is our aim. We are properly conservative, but we recognize the obligation resting upon all bankers to help meet deserving business requirements.

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER President

26 South Street, Baltimore, Md.

Capital and Surplus \$1,350,000.00

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With connections seeking extensive outlets in constructive financing in the South, this announcement of facilities now available to Southern business houses embraces a most cordial invitation to investigate the solutions offered in response to capital needs. Capital furnished for both new and old enterprises.

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ATLANTA, GEORGIA

**Taylor,
Wilson
& Co. Inc.**
INVESTMENT SECURITIES

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Public officials are invited to avail themselves of our facilities for preparation of legal details.

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38 SOUTH LA SALLE ST., CHICAGO

Municipalities
Corporations
Railroads

Financed

MARX & CO. BIRMINGHAM
ALABAMA

"The Early 1880's in Baltimore"

Southern men and women who lived in, or visited Baltimore in the period when this Company was established—which was the year of 1884—will be interested, we believe, in our anniversary book "The Early Eighties: Sidelights on the Baltimore of forty years ago." A copy will be sent upon request.

**MERCANTILE TRUST COMPANY
OF BALTIMORE**

Resources \$24,000,000 A. H. S. POST, Pres. F. G. BOYCE, Jr., Vice-Pres.

We Buy Bonds

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WRITE

THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

JOHN NUVEEN & CO.

First National Bank Building

CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL
BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale.

BANKS and Financial organizations seeking to enlarge their business in the South will find an advertisement in the Manufacturers Record a means of contact carrying with it an atmosphere of responsibility and dignity.

May we discuss this
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MANUFACTURERS RECORD

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BALTIMORE, MD.

CHARACTER

QUALITY

— SERVICE —

Rail-Motor Coach Service Between Monterey, Mex., and St. Louis

The Missouri Pacific Lines are operating a joint rail-motor coach service between St. Louis and Monterey, Mex. The idea behind the institution of this service was the restoration of at least a portion of the through passenger business, moving from the North and East to the South and from the South to the North and East, to the rail lines, lost largely because of the difference between rail and highway fares. A two-fold appeal is claimed for this service—it is faster than all-highway and cheaper than all-rail. The Missouri Pacific Lines are using equipment already owned and that acquired through purchase of the Bee Line Coaches.

At Memphis or St. Louis through passengers are transferred to the motor coaches of the Missouri Pacific Transportation Co. and moved, by them, to Palestine, Texas. At Palestine connection is made with rail service, which carries passengers from Palestine to Austin, San Antonio and Laredo, where they are picked up by the National Railways of Mexico and moved to Monterey, Mex., or to Houston, Corpus Christi and Brownsville. All the haul north of Palestine is performed by motor coach and all south of that point by rail. This service is provided to all points south of Palestine reached by the company's rail lines, and to all points north of Palestine reached by its motor coach lines. The fare is the same as the through highway rates.

Association Promotes Dairying in Arkansas County

Organized by business men as the result of a program started early in 1928, the Jefferson County Cattle and Farm Development Association, Pine Bluff, Ark., is actively engaged in selling purebred Jersey cattle at cost price and on convenient terms to farmers of adjoining regions. During the first year of operation 175 of the 195 cattle were sold. To care for overhead expense and thus avoid using up the original \$100,000 capital of the association, \$4000 is provided by the county quorum court and the local clearing house association. Local bankers have also agreed to take paper given in exchange for cattle purchased.

As part of the association's plan a 90-acre farm was leased, upon which a model cottage was constructed for the manager, and a modern dairy barn, shelter barn and other necessary structures were provided. An approved milk handling room was also arranged on the

farm, which is electrically operated and is used for demonstrating to prospective buyers, in addition to taking care of the cattle awaiting purchase. Committees look after all phases of the operating, such as supervision of purchases and premises and arrangement of credit for purchasers. The business men composing the association believe that the promotion of dairying in this way will assist the farmer to make money and thereby stimulate business activity.

"Consumer Packaging" In Cotton Bags

Consumer packaging of farm products in cotton bags offers an important possibility of increasing cotton consumption in the opinion of members of the New Uses of Cotton Committee of the U. S. Department of Agriculture and the Cotton-Textile Institute, Inc. It was reported at a recent meeting of the committee that increasing use is being made of cotton bags for packaging Idaho and Maine potatoes in ten and fifteen pound lots, and experiments are under way in packaging Florida oranges in colored mesh bags that hold one-tenth of a box. Similar possibilities are seen for a consumer package for pecans and other nuts in five pound containers.

Announcement was made by the Bureau of Agricultural Economics that results of the study of cotton bags and of other purposes for which cotton is used in power laundries of the United States are now available in a publication, "Cotton Consumption in Power Laundries of the United States, 1928." This study showed that in 1928 power laundries consumed approximately 52,000 bales of cotton in wash nets, twine, padding, sheeting, laundry bags, double-faced felt and cover duck; and that the greatest potential field for increasing the use of cotton in power laundries lies in the purchase of supplies, such as soap chips and other detergents, in cotton bags which may later be used for collecting and returning laundry to customers, thereby preventing losses to laundries through damage claims for lost articles.

Announcement was made by the Bureau of Chemistry and Soils that a summary of the methods of fire-proofing fabrics is being prepared as an aid in the further utilization of cotton fabrics, and that researches are being continued in an effort to discover a satisfactory weather-proof and fire-proof compound for treatment of cotton fabrics.

Mills and quarries in the membership of the Portland Cement Association, Chicago, for the fourth consecutive year, are co-operating in an effort to operate through June without an accident.

\$15,000,000 PIPE LINE PROJECTED

Standard Oil Companies to Build Project from Oklahoma to Illinois

Tulsa, Okla.—Organized as a subsidiary by the Standard Oil Company of New Jersey, New York City, and the Standard Oil Company of Ohio, Cleveland, the Ajax Pipe Line Co. plans to build a crude oil transportation system from a point south of Tulsa to Wood River, Ill., where the line would connect with lines of the Illinois Pipe Line Co., controlled by the Standard Oil Company of Ohio. Initial construction will involve a double 10-inch line to carry principally the brightstock oil from the Oklahoma City field, it is said, where the Standard Oil of Ohio has a large production. Ford, Bacon & Davis, New York, are the engineers for the project which is estimated to cost \$15,000,000.

To Promote Growth of Tampa and Vicinity

Tampa, Fla.—A program of city-wide progress and industrial advance has been undertaken by the Tampa Chamber of Commerce in co-operation with citizens and other organizations, including the West Tampa Chamber of Commerce, Ybor City Chamber of Commerce, Kiwanis Club, Lions' Club, Civitan Club, Rotary Club, Exchange Club, Gyro Club, Real Estate Board, Association of Architects, Hotel Association, Advertising Club, Tampa Auto Dealers' Association, Ministers' Association, Junior Chamber of Commerce, Seminole Civic Club, Board of Representatives, and Board of City Commissioners. The aim is to develop Tampa's agricultural area, port and harbor facilities, increase local and state-wide commerce, foreign and national trade, attract a larger proportion of tourists and work out an intelligent program of cultural and civic betterment. The Tampa Chamber of Commerce estimates its budget at \$80,000 annually for three years to further this plan.

\$875,848-Contract on Barracks

San Antonio, Tex.—General contract to erect three barracks buildings at Fort Sam Houston, near this city, has been formally awarded to the Banspach Brothers Construction Company, San Antonio, at \$875,848. The structures will be three stories and basement, of reinforced concrete and tile, with concrete foundations. Two of them will be 95 by 450.6 feet and one 84 by 200 feet. Captain Will R. White is the Constructing Quartermaster.

Administration Department

CITY OF
ST. AUGUSTINE, FLORIDA

OFFICE OF
CITY MANAGER

November 21, 1929.

Manufacturers Record,
Baltimore, Md.

Gentlemen:

I do not think there is any question as to the value of the work your publication is doing for the South and no comments are necessary on same.

This office frequently consults your advertising pages for the purpose of making purchases, and in this connection I have one complaint to make and that is, some advertisers frequently carry a half or full page advertisement in the magazine but in the meantime carry no ad. and in looking over your classified list of advertisers, unless these advertisers referred to happen to be in that issue, they miss an inquiry and probably an order.

Had they carried a small advertisement regularly, so as to have their names in your list of advertisers in each publication, they would have received inquiries and probably a purchase order.

Very truly yours,

W. N. McDonald

W. N. McDonald,
CITY MANAGER.

WNMCD/w



PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close June 19, 1930.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 22, 1930.—SEALED BIDS will be opened in this office at 3 p. m., June 19, 1930, for remodeling and enlarging the U. S. post office at Bridgeton, N. J. Drawings and specifications may be obtained from the custodian of the building, or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 24, 1930.

War Department, Office Constructing Quartermaster, Fort Bragg, N. C. Sealed proposals in triplicate will be received until 10 A. M., June 24, 1930, and then publicly opened, for the complete installation of Branch Terra Cotta Sewer Lines with Branch Connections, and Branch Cast Iron Water Lines with House Connections, at Fort Bragg, North Carolina. \$25.00 deposit certified check, payable to Treasurer of United States, required for plans and specifications. Further information on request.

Bids close July 7, 1930.

TREASURY DEPARTMENT, office of the Supervising Architect, Washington, D. C., June 7, 1930.—Sealed bids will be opened in this office at 3 p. m., July 7, 1930, for extension and remodeling (except elevators and elevator hatchway entrances) the U. S. post office, city hall and courthouse at Richmond, Va. Drawings and specifications, not exceeding six sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit is made of \$50.00 for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 1, 1930.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the U. S. Veterans' Bureau, Room 764, Arlington Building, Washington, D. C., until 11 A. M., July 1, 1930, and then publicly opened, for furnishing all labor and materials and performing all work required at U. S. VETERANS' HOSPITAL, NORTHPORT, LONG ISLAND, NEW YORK, for CONSTRUCTION OF BUILDINGS AND UTILITIES, including roads, walks, grading and drainage. This work will include excavating, reinforced concrete construction, hollow tile, brick work, cut stone, cast stone, marble work, floor and wall tile, rubber tile and linoleum floors, iron work, steel sash, steel stairs with slate treads, metal stall partitions, steel lockers, slate, metal and built-up roofing, roof ventilators, metal lathing, plastering, carpentry, metal weatherstrips, insect screens, window shades, painting, glazing, hardware, plumbing, heating, electrical work, electric elevators and outside sewer, water, steam and electric distribution systems. SEPARATE BIDS will be received for (a) General Construction (including the plumbing, heating and electrical work); (b) Electric Elevators; all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract, and in making awards the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Director, drawings and specifications may be obtained upon application to the Constructing Division, Room 764, Arlington Building, Washington, D. C. Deposit with application of a check or postal money order for \$75.00, payable to the TREASURER OF THE UNITED STATES, is required as security for safe return of the drawings and specifications within ten days after date of opening bids. FRANK T. HINES, Director. May 28, 1930.

Bids close July 7, 1930.

TREASURY DEPARTMENT, office of the Supervising Architect, Washington, D. C., June 7, 1930.—Sealed proposals will be opened in this office at 3 p. m., July 7, 1930, for furnishing all labor and materials and performing all work necessary for the installation of a complete elevator plant in the U. S. post office, court house and custom house at Richmond, Va. All prospective bidders are hereby notified that any bid submitted in response to this advertisement must be accompanied by a statement of facts in detail of the business and technical organization of the bidder available for the contemplated work, including financial resources and building experience, etc. The United States expressly reserves the right to reject any bid in which the facts as to business and technical organization, financial resources, or building experience compared with the project bid upon justify such rejection. The successful bidder will be required to furnish a performance bond of 50% of the contract price. Drawings and specifications may be obtained from this office. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 1, 1930.

\$860,000 Improvement Bonds

Memphis, Tenn.

SEALED BIDS received by the City Clerk in Memphis, Tennessee, until 2:30 o'clock P. M., Tuesday.

JULY 1ST, 1930.

Bonds are all general liability serial coupon bonds, the full faith and credit of the City of Memphis being pledged. All bonds bear the date of July 1st, 1930. Interest semi-annually. Bonds are payable in Memphis, Tennessee, or at the fiscal agent, New York, N. Y. Bonds prepared without cost to the purchaser. Approving opinion of Thomson, Wood & Hoffman, attorneys-at-law, furnished. Tax free in Tennessee and from Federal Income Tax. Bonds may be registered as to principal only. No option of payment prior to maturity. Delivered in New York, N. Y., or equivalent. Delivery on or before July 20th, 1930. Coupon bonds payable to bearer. Denominations of \$1000. The bidder will name interest rate, using either 4%, 4½, 4¾, 5 or 5½ per centum per annum. Bids by mail given same consideration as those presented by personal representatives.

ITEM NO. 1—IMPROVEMENT BONDS. \$400,000.00 payable \$16,000.00 on the first day of July, 1933 to 1937, inclusive.

ITEM NO. 2—STREET IMPROVEMENT BONDS, SERIES 23 OF 1930.

\$460,000.00 payable \$92,000.00 on July first, from 1931 to 1935, both inclusive. In addition to being general liability obligations of the City of Memphis, these bonds are payable principal and interest out of special front foot assessment levied against property abutting the improvements made out of the proceeds of these bonds.

In the foregoing issues, the bonds are numbered consecutively; the Improvement bonds being numbered from 451 to 850, both inclusive, and the Street Improvement bonds series 23 of 1930 bonds being numbered from 1 to 400, both inclusive and the bonds of every issue mature serially in numerical order as set out above. The right is reserved to reject any or all bids.

Other things being equal, preference will be given to the bid which names the highest price for both of the issues offered. The bidders must so state if their bid is an "all or none" bid. Certified check in the sum of \$8,600.00.

Proposals must be in duplicate; no blanks furnished by the city.

For further information address the City Clerk.

By order of the Board of Commissioners of the City of Memphis. This the 11th day of June, 1930.

WATKINS OVERTON, Mayor.

Attest:
D. C. MILLER, City Clerk.

Bids close June 17, -1930.

Concrete Bridges

DEPARTMENT OF PUBLIC WORKS

STATE OF MARYLAND

STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building bridges as follows:

Baltimore County—Contract No. B-105-411 —Extension to double span concrete bridge on Gwynn Oak Avenue over Gwynns Falls.

Montgomery County—Contract No. M-144-37 —Extension to triple span concrete arch bridge on the road from Whiteoak to Burtonsville (Columbia Pike) over Paint Branch.

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M., E. S. T., on the 17th day of June, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 3rd day of June, 1930.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close June 17, 1930.

Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS

STATE OF MARYLAND

STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building a bridge as follows:

Montgomery County, Contract No. M-118-53 —Substructure, concrete floor, approach span, etc., and complete approaches for the proposed grade elimination over the tracks of the Baltimore and Ohio Railroad Company at Gaithersburg.

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M., E. S. T., on the 17th day of June, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 27th day of May, 1930.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close June 24, 1930.

South Carolina Highway Work

S. C. STATE HIGHWAY DEPARTMENT
Columbia, S. C.

Sealed bids will be publicly opened at 11 A. M. Tuesday, June 24, 1930, in the auditorium of the Jefferson Hotel, Columbia, S. C., for the construction of the following projects:

State Project 712-B, Anderson County—the topsoiling in preparation for surface treatment of 4.887 miles of Route 247 from Belton to Cooley's Bridge.

State Project 530-B, Berkeley—the surfacing with sand-clay in preparation for surface treatment of 5.713 miles of Route 31 from Route 17 to Carnes Cross Roads.

State Project 686-A, Contract No. 2, and 686-B, Berkeley County—the surfacing with sand-clay of 6.477 miles of Route 402 between U. S. Route 17 and Cordesville.

F. A. Project 294-A, Cherokee County—the grading of 5.893 miles of the Gaffney-Blacksburg road on Route 29.

F. A. Project 68 Reopened and 309 & Ext., Chester County—the grading of 21.376 miles of Route 9 from Chester via Richburg to Fort Lawn.

State Project 714 A&B, Chesterfield County—the surfacing with sand-clay of 24.361 miles of Route 35 from Pageland via Jefferson to McBee.

F. A. Project 126 Reopened, Fairfield County—the grading of 4.41 miles of Route 21 between Simpson and Ridgeway.

State Project 759, Fairfield County—the surfacing with topsoil in preparation for surface treatment of 8.577 miles of Route 215 from the Richland County line to Jenkinsville.

F. A. Project 298, Laurens County—the grading of 16.475 miles of Route 15 from Princeton to Laurens.

State Project 744-A, McCormick County—the grading of 13.531 miles of Route 20 from Parksville via Modoc, Clark's Hill and Meriwether to a point near Furey's Ferry on the Savannah River.

State Projects 620-B Reop. and 747, Newberry County—the grading of 5.779 miles of Route 176 between Whitmire and Newberry.

State Project 688, Newberry County—the surfacing with topsoil of 3.844 miles of a section of Route 56 north of Chappells.

State Project 640-B, Oconee County—the surfacing with clay-bound macadam of 4.807 miles of Routes 2 and 24 from Mountain Rest to the Georgia state line.

State Project 730-A&B, Union County—the topsoiling in preparation for surface treatment of 14.143 miles of Route 92 from Union to Tiger River.

State Project 689-A, Lancaster County—the grading in preparation for paving of 8.921 miles of Route 26 from Lancaster to a point near Pleasant Hill.

State Project 689-B, Lancaster County—the grading in preparation for paving of 8.372 miles of Route 26 from Pleasant Hill south to the Kershaw County line.

State Project 738-B, Union County—the topsoiling in preparation for surface treatment of 9.294 miles of Route 9 from Lockhart to Kelly Station.

F. A. Project 80 Reopened, Section No. 2, and State Project 742-B, Clarendon-Williamsburg Counties—the grading of 17.054 miles of Route 26 from a point approximately 4 miles southeast of Manning to U. S. Route 17 near Kingstree.

F. A. Project 296 and State Project 741, Williamsburg County—the grading of 23.288 miles of Route 26 from Kingstree to Andrews.

State Project 790, Aiken County—the paving of gaps on Route 1 between Lexington-Aiken County line and Augusta.

F. A. Project 235, Contract No. 2, Chester County—the surface treatment of 14.146 miles of Route 7 from Chester to Broad River.

State Projects (553, 646-A-B-C & 759), Contract No. 2, Fairfield-Chester Counties—the surface treatment of 34.428 miles of Route 215 from Richland County line to Route 7.

State Project 555, Contract No. 2, Lancaster County—the surface treatment of 7.036 miles of Route 93 from Route 26 north of Lancaster to the North Carolina state line.

F. A. Project 312, Oconee County—the surface treatment of 9.1 miles of Route 13 from Westminster to the Georgia State line.

State Project 640-A, Contr. No. 2, Oconee County—the surface treatment of 10.802 miles of Routes 2 and 24 from Walhalla to Mountain Rest.

State Project 589-B-C-D-E, Contr. No. 2, Orangeburg-Bamberg Counties—the surface treatment of 19.919 miles of Route 6 from North to Denmark.

State Projects (587 and 574), Contract

No. 2, Bamberg-Colleton-Hampton Counties—the surface treatment of 38.994 miles of Routes 36 and 64 from Bamberg to Hampton and from Ehrhardt to Route 641.

State Project 516, Contr. No. 2, Saluda County—the surface treatment of 12.961 miles of Route 392 from Saluda to Saluda River near Chappells.

State Projects (520 and 592), Contract No. 2, Lexington-Saluda-Newberry Counties—the surface treatment of 14.817 miles of Route 391 from Batesburg to Saluda River.

In addition to the above road projects bids will be received on eleven bridge projects.

The State Highway Department reserves the right to reject any or all proposals and waive any technicalities.

BEN M. SAWYER,
Chief Highway Commissioner.

Bids close June 24, 1930.

Louisiana Highway Work

CANCELLATION REQUEST FOR BIDS

Baton Rouge, La.

Notice is hereby given that the Louisiana Highway Commission has cancelled request for bids for paving the Project described below, bids for which were to have been received and opened on

TUESDAY, JUNE 24, 1930

PROJECT NO. 1401, CHENEYVILLE-BUNKIE HIGHWAY, Rapides and Avoynes Parishes, Route No. 1, length 8.1 miles. Concrete Pavement.

HARRY B. HENDERLITE,

State Highway Engineer.
O. K. ALLEN, Chairman,
Louisiana Highway Commission.

Bids close July 1, 1930.

Bridge Structures

Bastrop, La.

Sealed proposals will be received by the Police Jury of Morehouse Parish at Bastrop, La., up to 10.30 A. M. Tuesday, July 1st, 1930, and at that time and place be publicly opened and read, for the construction of the following bridges over Bayou Bartholomew.

Cory's Bluff bridge, 4 miles west of Bonita Knox Ferry bridge, 4 miles northwest of Gallion; Bonner's Ferry bridge, 4 miles northwest of Bastrop, La., and Parker's Ferry bridge, 3 miles northwest of Bastrop, each structure over all being in length 627 ft., 576 ft., 559 ft. and 627 ft., respectively, consisting of creosoted timber approaches and a 100-ft. steel span through truss, providing a 16-ft. roadway, with creosoted timber floor joists. The contract for the construction of each project will be awarded separately.

Creosoted and untreated bridge lumber and piling will be furnished by the parish f. o. b. sidings at Bonita, Gallion and Bastrop, and steel structure will be furnished in place complete by the contractor.

Information as to locations, character of work, extent of time, class of material, terms of payment, regulations governing manner of submitting proposals and executing contracts may, on application, be obtained at the office of the Parish Engineer at Bastrop, La.

J. LESTER WHITE,
Parish Engineer.

J. W. BRODNAX,
President, Police Jury.

Bids close June 17, 1930.

Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building eight sections of State Highway, as follows:

Baltimore City, Cont. No. BC-88-74—One section of State Highway along Wilkens Ave. from DeSoto Rd. to the Western City Limits, a distance of 1.2 miles (sheet asphalt).

Baltimore County, Cont. No. B-116-411—One section of State Highway along Gwynn Oak Ave. from the Baltimore City Limits to the Windsor Mill Road, a distance of 1.07 miles (concrete shoulders).

Caroline County, Cont. No. Co-57-22, Federal Aid Project 219—One section of

State Highway along the Goldsboro-Delaware Line Rd. from Goldsboro to Sandy Island Bridge, a distance of 1.51 miles (concrete).

Carroll County, Cont. No. CI-85-511—One section of State Highway along the Westminster-Taneytown Rd. from Bear Branch to Fountain Valley, a distance of 4.87 miles (concrete shoulders).

Cecil County, Cont. No. Ce-90-211—One section of State Highway along Main Street, Port Deposit, a distance of 0.3 miles (concrete patches in existing surfacing).

Dorchester County, Cont. No. D-61-12—One section of State Highway from Church Creek toward Gum Swamp, a distance of 1.0 mile (concrete).

Queen Anne's County, Cont. No. Q-58-24, Federal Aid Project 211—One section of State Highway along the Sudlersville-Delaware Line Road from Peter's Corner toward the Delaware Line, a distance of 1.2 miles (concrete).

Wicomico County, Cont. No. WI-52-12—One section of State Highway from Powellville, toward Whitton, a distance of 0.7 mile, and from Powellville twd. Salisbury, a distance of 0.6 mile, making a total distance of 1.3 miles (concrete).

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M., E. S. T., on the 17th day of June, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 3rd day of June, 1930.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close June 28, 1930.

Sewage Disposal Plant

Charlottesville, Va.

Sealed proposals for the construction of two (2) Sewage Disposal Plants will be received by the City of Charlottesville until 2 P. M. on Saturday, June 28th, at the office of the City Manager, H. A. Yancey, at the City Hall.

Each proposal must be accompanied by a certified check in the amount of \$5000.00 on a solvent National Bank, made payable to the City of Charlottesville. Bid bonds will not be accepted in lieu of the above specified certified check.

Plans and specifications are on file at the office of the Consulting Engineer, Lee H. Williamson, City Finance Building, Charlottesville, Virginia, and at the City Manager's office. They may be obtained upon payment of \$10.00 and will remain the property of the bidder.

Bond will be required in the full amount of the contract as awarded.

Payment will be made in cash on the basis of the Engineer's monthly estimate from funds now in the hands of the City Treasurer.

The Engineer's estimate of the approximate quantities involved in the work is as follows:

3,000 cu. yds. Earth Excavation, Unit Prices.

1,750 cu. yds. Rock Excavation, Unit Prices.

1,300 cu. yds. Reinforced Concrete Masonry, Unit Prices.

180,000 lbs. Reinforcing Steel, Unit Prices.

96 tons Cast Iron Pipe and Specials, Unit Prices.

Gate Valves and Shear Gates, Lump Sum.

Vitrified Sewer Tile, Lump Sum.

Buildings, Lump Sum.

Miscellaneous Iron and Steel, Lump Sum.

450 cu. yds. Sand and Gravel for Sludge Beds, Unit Prices.

3,500 sq. ft. Soapstone, Unit Prices.

The City of Charlottesville expressly reserves unto itself, through the City Manager, the right to reject any or all bids.

H. A. YANCEY,
City Manager.

Bids close June 25, 1930.

Steel Tanks

Mannington, W. Va.
City of Mannington, West Virginia, is publishing notice to contractors that it is receiving bids until June 25th, 1930, for furnishing materials and labor for construction of two steel water storage tanks, with covers, of the capacity of two hundred thousand gallons each. Specifications may be had upon request addressed to R. E. Mockler, City Clerk, Mannington, West Virginia.

Bids close July 7, 1930.

Waterway Structures

Belzoni, Miss.
The Commissioners of the Main Separate Road District of Supervisors District No. 4 of Humphreys County, Miss., up until 12 o'clock noon, on

Monday, the 7th day of July, 1930, will receive sealed bids for the construction of waterway structures, as follows.

100-ft. Creosoted Timber Bridge 24 ft. wide.
86-ft. Re-inforced concrete culvert—Double 6'x6'

60-ft. Re-inforced concrete culvert—single 6'x6'

Approximately 48 Pipe Endwalls—12' to 48'
All to be done and furnished in accordance with plans and specifications now on file in the office of the Chancery Court Clerk of Humphreys County, Mississippi. Contract will be awarded to the lowest bidder.

Certified check for \$1,000 on and by any responsible bank, payable to Commissioners of the Main Separate Road District No. 4, Humphreys County, Mississippi.

Additional information may be had upon application to W. J. Price, Engineer, Belzoni, Mississippi.

The Commission reserves the right to reject any and all bids.

THOS. TURNER,
J. L. MILLER,
T. C. PARISH, Commissioners.
A. R. HUTCHENS, Clerk.

Bids close July 7, 1930.

School Building

THE BOARD OF PUBLIC INSTRUCTION
BAY COUNTY, STATE OF FLORIDA
Office of C. C. Mathis, Superintendent,
Panama City, Fla.

Sealed proposals endorsed "Proposals for School Building, Special Tax District No. 4, Millville, Fla.," addressed to the Board of Public Instruction, for Bay County, Florida, will be received at the office of C. C. Mathis, Superintendent of Public Instruction, County Court House, Panama City, Fla., until 10.00 A. M. Monday, July 7th, 1930.

Plans and specifications of the above work may be obtained at the office of Walker D. Willis, Architect, 519 Blount Bldg., Pensacola, Fla. A deposit of \$15.00 will be required for each set of plans and specifications, \$10.00 of deposit will be returned to contractor, upon delivery of plans and specifications in good condition.

Each proposal on the building construction must be accompanied by a certified check for \$1000.00; each proposal on Heating and Plumbing, by a certified check for \$400.00, and each proposal for Electrical Work, by a certified check for \$150.00. All certified checks to be made payable to the Board of Public Instruction for Bay County, State of Florida, as a guarantee that the successful bidder will give bond and execute contract for the performance of the work. This bond to be in a sum equal to Fifty (50%) per cent of the amount of his contract and executed by a Surety Company authorized to do business in the State of Florida.

Plumbing and Heating, and Electrical Work, will be let under separate contracts. The Board of Public Instruction reserves the right to reject any and all bids or parts thereof.

BOARD OF PUBLIC INSTRUCTION.
E. H. WILHERMAN,
Chairman.
C. C. MATHIS,
Superintendent.

Bids close July 1, 1930.

Bridge Material

Bastrop, La.
Sealed proposals will be received by the Police Jury of Morehouse Parish at Bastrop, La., up to 10.30 A. M. Tuesday, July 1, 1930, for the furnishing of creosoted and untreated bridge lumber and piling, delivered Bonita, Gallon and Bastrop, La., at which time and place sealed proposals will be publicly opened and read.

APPROXIMATE QUANTITIES.

200 MBM creosoted lumber.

140 MBM untreated lumber.

22,000 Lin. Ft. creos piling.

The contract for the material for each structure will be awarded separately.

Information as to class of material, terms of payment, regulations governing manner of submitting proposals and executing the contract may, on application, be obtained at the office of the Parish Engineer at Bastrop, Louisiana.

J. LESTER WHITE,
Parish Engineer.

J. W. BRODNAX,
President, Police Jury.

**Bids Wanted
For Sub-Contractors**

New Orleans, La.
J. V. & R. T. BURKES, INC., Contractors, American Bank Building, New Orleans, La., have received plans and specifications and are in the market for all sub-contract bids and material quotations in connection with general contract bid they propose to submit on the following jobs:

United States Marine Hospital to be erected at New Orleans, La. Bids go in June 24, 1930, at Washington, D. C.

Hotel Francis to be erected at Monroe, La.; Wyatt C. Hedrick, Inc., Architects, Fort Worth, Texas. Bids go in June 17, 1930, in Monroe.

City High School to be erected at Monroe, La.; J. W. Smith & Associates, Architects, Monroe, La. Bids go in June 30, 1930.

We would like to have all bids in our office about two days before the jobs are to be let.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FOR SALE—Factory Sites, City Property, Water Frontage, Tracts for Suburban Development, Timber Lands and Colonizing Lands. H. H. Wefel, Jr., Mobile, Alabama.

MANGANESE DEPOSITS

HAVE LEAD OF MANGANESE which has been cross cut in 12 places 2 to 4 feet depth for one mile. Just right for practical man to take over and develop or sell.

Address
BOX 137, LYNCHBURG, VA.

GRANITE QUARRY

FOR SALE OR LEASE—Splendid granite quarry near Lithonia and Atlanta, Georgia. Address "Granite," Box 32, Station C, Atlanta, Georgia.

FARM, FRUIT AND TRUCK LANDS**LOUISIANA**

ST. CHARLES PARISH, LOUISIANA, offers opportunities in cattle ranches, agricultural and industrial sites. St. Charles Bank & Trust Co., Sellers, La.

MARYLAND

ENCHANTING 140 acre Island, Maryland, Eastern Shore. Superb beach, clubhouse, two wharves, boats; best of hunting and fishing. Only \$16,000 if bought now. No. 9017, care Manufacturers Record.

Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to a line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:

100 lines \$80 a line

300 lines \$60 a line

500 lines or more \$50 a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

FARM, FRUIT AND TRUCK LAND**TEXAS**

FOR SALE—640 acres patented land located in the shale formation near the producing quicksilver mines in the south part of Brewster County, Texas. All mineral rights, oil, gas, everything goes with the title and \$3.00 per acre cash picks up this mineral snap. This land can be sold in five and ten acre tracts at \$35.00 per acre. Address P. O. Box 436, Roanoke, Va.

FARM, FRUIT AND TRUCK LANDS**TEXAS**

RIO GRANDE VALLEY—10-acre citrus grove, paying 20 per cent on valuation; modern home. Write for details and pictures. A. V. BROWN, Harlingen, Tex.

VIRGINIA

195 ACRES, Beautiful Piedmont region, fine air, delicious water, land highly productive.

A. F. M. SMITH

Wingina, Va.

RIVER FARM FOR SALE OR EXCHANGE—750 acres, brick mansion, two stock barns, several tenant houses, 125 acres rich bottom land, 325 acres fine upland, 300 acres timber. Good neighborhood. Low price.

GEO. V. VENABLE & CO., Lynchburg, Va.

SOUTHERN HOMES**SOUTHERN HOMES**

In the best city in the Carolinas. \$10,000 to \$75,000, according to size and location.

F. C. ABBOTT & CO.,

Charlotte, N. C.

32 years in Charlotte Real Estate.

BEST BUY IN FLORIDA.

Most beautiful residence in Ft. Myers; 200-ft. waterfront, as well as the same frontage on First Street, the most beautiful street in Florida. This sacrificial price due to death of owner. Price \$38,000.00. Terms if desired.

P. JOHN HART REALTY CORP.,
P. O. Arcade,
Fort Myers, Fla.

SOUTHERN HOMES

OVER 500 ACRES, spring, brook, log cabin, many long leaf pines. Estate preserve. Fine fish pond "full of fish." Low acreage price. G. F. ARCHER, Alken, S. C.

BUSINESS AND INVESTMENT PROPERTIES

FOR SALE—Satsuma Beach, 8 miles from the Gulf, a nice quiet place to spend the hot summer days, clear salt water, nice cottages, 1850 feet water front. Good investment. CARL A. SWANSTROM, Summerdale, Alabama.

BUSINESS OPPORTUNITIES

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

THE OWNER of an established business, located just outside the limits of a Southern city of 150,000 population, connected with two trunk lines, desires a partner to take full charge, or will sell at a bargain. Now manufacturing mine and marble mill equipment, foundry capacity castings up to 16 tons, general machine and steel work. Machinery all modern and electric driven with our own Diesel plant. Address No. 9008, care of Manufacturers Record.

ESPECIAL OPPORTUNITY—Wonderful opening for an experienced operator: 100-barrel capacity FLOUR MILL for sale or lease. Hydro power developed 80 to 100 horsepower. Mill modernly equipped, the only mill here. All surrounding conditions of the very best, product all absorbed locally; good wheat country. Hard surface pikes in all directions, two railroads. Population in excess of 8000; growing rapidly. Address SAM T. MILLARD, First National Bank, Elizabethton, Tenn.

WE WISH to communicate and hear from desirable parties that wish to join other parties with experience and reputation that will be of national value and worth in completing organization of construction Co., properly financed to handle large operations. Parties desiring further details that wish to purchase 10 or more shares of the stock, and in other ways be of value to such organization, will please communicate with No. 9013, care of Manufacturers Record. Do not reply unless interested as above.

WANTED—RELIABLE MEN in various parts of the country, with \$3000.00 to \$5000.00, to invest in a corporation established and ready to market a building specialty possessing unusual merit. The men selected will manage branch offices controlling territory of considerable size, and be paid on a salary and commission basis. We invite a careful investigation and expect high-class references from men we choose for these important positions. Our product has been approved by leading architects and Government engineers. Men having following with architects and builders desirable. No. 8098, care Manufacturers Record.

INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,
Woolworth Building New York City

DEVELOPING AND ENGINEERING**ORGANIZING—DEVELOPING—ENGINEERING**

Engineering firm, widely experienced in investigating, organizing, developing, designing and supervising construction, solicit correspondence regarding development or extension of meritorious projects and existing industries, power plants and utilities. Address No. 8016, care Manufacturers Record.

FINANCIAL**MONEY WANTED**

6, 7 and 8% Mortgage Loans on City, Town or Country property. Southern Land & Investment Co., Baton Rouge, Louisiana.

INDUSTRIES WANTED

RIGHT AT THE SOURCE of raw materials and with loyal, native, alert labor, SUMTER, SOUTH CAROLINA, affords exceptional opportunities for PROFITABLE manufacturing of furniture, toys and wood novelties. Fourteen such factories already located here. Also splendid openings for hosiery, silk and knitting mills. Certain valuable inducements to new industries. For information write Sumter Board of Trade.

INDUSTRIAL PLANTS

FOR SALE—Manufacturing Plant of going concern. Need money for operating purposes. Will sign ten years' guaranteed lease at attractive rental. For full particulars address No. 8092, care of Manufacturers Record, Baltimore, Md.

COMPLETE WOODWORKING PLANT, suitable for furniture or other wood articles. Dry kiln, slide track, with ample trained labor available. Can be bought for less than one-half reproduction value. First Securities Company, Chattanooga, Tenn.

WATER FRONT PROPERTY

FOR SALE—Water-front property located in the City of Suffolk, Virginia. This property is suitable for manufacturing purposes, as it is served by six railroads and deep water to the sea. DIXIE GUANO COMPANY, INC., Suffolk, Va.

FACTORY SITES**FACTORY SITE****ON DEEP WATER**

If you are seeking an ideal deep water industrial location in Baltimore, Maryland, on one of the finest harbors in the world, see full page advertisement on page 91, May 15th issue of the Manufacturers Record.
W. S. CAHILL, CO.,
Key Highway and Webster Street,
Baltimore, Md.

FACTORY BUILDINGS

FACTORY BUILDING, 50x192, 3-story cement construction, on L. & N. Railroad and power line, must be sold. Write CARL A. SWANSTROM, Summerdale, Ala.

FOR SALE OR LEASE IN NEWPORT NEWS, VA., a solid block of reinforced concrete and brick buildings, floor space about 75,000 sq. ft. Buildings are new, with railroad siding and power plant, right in the heart of the city. Can be used for manufacture of furniture, machinery, etc. Will sell or lease at reasonable price. Apply L. U. NOLAND, Newport News, Va.

PATENT ATTORNEYS

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

FREE "PATENT PARTICULARS" Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys, Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service, Suite 600-4, Barrister Building, Washington, D. C.

PATENTS—TRADEMARKS—COPYRIGHTS Charlotte office convenient to South. PAUL B. EATON, Registered Patent Attorney, 218 Johnson Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

EDWARD C. SASNETT, Atty. at Law, formerly a Principal Examiner in the U. S. Patent Office. I offer to inventors and manufacturers a strictly personal service based on twenty years' experience in patent work. McGill Building, Washington, D. C.

REPRESENTATIVES WANTED

WANTED—Salesmen on liberal commission basis to market a new machine that will revolutionize drilling and countersinking of metals. Prefer men who are selling products to metal fabricators as well as large industrial firms. Address GUIBERT STEEL CO., P. O. Box 1037, Pittsburgh, Pa.

WANTED—Representative acquainted with Architects and Contractors—especially Plastering Contractors—part time, on commission basis, to keep us informed of jobs coming up in your city requiring plaster ornament. Have attractive proposition. Write for particulars. LOUISVILLE COMPOSITION PRODUCTS CO., Louisville, Ky.

AGENCIES WANTED

WANTED TO REPRESENT on commission basis manufacturers of Cement, Iron, Steel, Wallboard, Lime, other building materials, or as distributor, with warehouse facilities. P. O. Box 1046, Beaumont, Texas.

MANUFACTURERS' REPRESENTATIVE. Resident of Southern New England. Many years manager of large plant manufacturing non-ferrous alloys. Is available for full time connection. Highest references. Address No. 9021, care Manufacturers Record.

MANUFACTURERS of merchandise of merit desiring southwestern representative, please communicate with and outline proposition fully to J. A. CAMPBELL, 2912 Hall St., Dallas, Tex.

CIVIL ENGINEER

GRADUATE C. E., also Liberal Arts education, with 10 years' general const., land development and engineering experience, wishes supervising or executive position. In present position has supervised over \$700,000.00 worth of bldg. construction for a nationally known organization. Address No. 8097, care of Manufacturers Record.

SITUATIONS WANTED

BUILDING SUPERINTENDENT—Desires position, college training, and 20 years experience in all classes of building. References if desired. Address W. C. ROGERS, 621 "O" St., W. Palm Beach, Fla.

EXECUTIVE

Broad experience as Manager and Sales Manager in the Electrical Industry—experience national in scope. Now employed. Address No. 9016, care Manufacturers Record, Baltimore, Md.

BUILDING MATERIAL OR KINDRED LINES

Experienced Executive-Sales Manager. Age 35, married, eleven years experience Building Materials, Plumbing, Heating, Ready-Cut, etc. Have handled large volume of business and large force of men. Desire connection with reputable concern. Prefer South. References and bond. Address No. 9019, Manufacturers Record.

MEN WANTED

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service, of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty years. Send only name and address for details.
R. W. BIXBY, INC.,
103 Downtown Bldg. Buffalo, New York

MACHINE AND FOUNDRY WORK

ONE OF BEST equipped machine shops in South, including modern foundry, now in position to accept outside work. Large factory located junction three railroads. Competent, experienced personnel. Reasonable rates. Prompt reply to inquiries. Address Box 748, Lynchburg, Virginia.

Announcement of CALHOUN'S FEED MILL

YOU are invited to inspect through your engineers and agents CALHOUN'S New FEED MILL: at Hodges Machine Shop, Winona, Miss.

It is of very simple construction and grinds all kinds of grain, grain in the husk, stalks, hay, beans and vines and in fact, any feed crop grown. (50) lbs. Corn in the husk per minute, with (12) Twelve Horse Power Motor.

A complete new idea in feed grinding machinery.

Patent Pending

We feel sure it will be worth your while to investigate this machine.

HODGES & CALHOUN, Winona, Miss.

The Davison Chemical Company

Manufacturers and Distributors of

All Grades of

SULPHURIC ACID SUPERPHOSPHATE DOUBLE SUPERPHOSPHATE

Main Plant, Baltimore: Pyrites Deposits Cienfuegos District, Cuba; Phosphate Rock Plant, Southern Phosphate Corporation, Bartow, Florida.

Fertilizer Plants: Maryland 11; Virginia 9; Pennsylvania 10; Georgia 2; Ohio 2; North Carolina 11; South Carolina, Mississippi, Louisiana, Texas, Indiana, West Virginia, Tennessee, Connecticut and New Jersey 1 each.

Main Office: Baltimore Trust Building, Baltimore



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MACHINERY

EQUIPMENT

SUPPLIES



S. C. BAND MILL CUTTING OUT

80M daily capacity, complete modern outfit, with boilers, kilns, planing mill, standard fire protection system. Also 20 miles 40 pound rail, 3 locomotives, 2 skidders, one track laying machine, 45 log cars. Can now be seen in operation. All in first class condition.

Address

Box 269

Summerville, S. C.

CRUSHING ROLLS 36" x 16"

Also a full list of drying, grinding, pulverizing and other mining machinery. Send us your inquiries.

HEINEKEN ENGINEERING CORPORATION

31 Nassau St.

New York

Tel. Hitchcock 4378-9

FOR SALE

The City of Georgetown has the following machinery for sale:

- 2 Worthington Compound Steam Pumps, size 10x16x8 1/2x10, capacity 500 Gals. per minute each—fully equipped; oil cups, lubricators and Fisher Governors.
- 1 Worthington Steam Boiler Feed Pump, size 5 1/2x3 1/2x5, fully equipped.
- 2 Horizontal Tubular Boilers, size 5 1/2 Ft. x 16 Ft. 2 In. with Steam Dome 54; 4 In. Tubes. Inspected by Hartford Boilers Inspection & Insurance Co., pressure allowed 100 Lbs.; fully equipped with steam gauges, water columns, etc.
- 1 Heater and Water Trap with Steam Pipe and Fittings.

All of the above in A-1 condition. Will be glad to receive communications from all interested parties.

CITY OF GEORGETOWN
Georgetown, S. C.

NEW AIR TOOLS AT 60%

- 13 size B. "Thor" air motor metal drills (cap'y. up to 2")
- 48 size C. "Thor" air motor metal drills
- 20 size 42 "Thor" air motor metal drills
- 8 size — "Thor" air motor metal drills
- 11 size BW "Thor" air motor metal drills (Cap'y. up to 9/16")
- 15 size 8 "Thor" air motor close corner metal drills.
- 14 4X "Little Giant" air motor metal drills.
- 12 2X "Little Giant" air motor metal drills.
- 50 No. 60 "Keller Master" riveting hammers, also several other makes and sizes.

These are absolutely brand new tools on which we will save you 40%.

W. M. SMITH & COMPANY

Box 1709

Birmingham, Ala.

Machine Tools Power Equipment Boilers Electric Motors

DELTA EQUIPMENT CO.
148 N. 3rd St. PHILADELPHIA

Conveyor, Elevators and Boiler FOR SALE

- Complete roller conveyor, 500 ft. long.
- 2—Economy Portable Elevators 2000 lbs. Capacity.
- 1—Ward Marine Boiler, 300 lbs. Pressure.

Maryland Pipe & Steel Corp.

Ostend and Scott Sts., Baltimore, Md.

Phone: South 0221

NEW FAIRBANKS-MORSE OIL ENGINE

- 15 H. P. Standard Type "V"
- With complete standard equipment (except pulley)
- 1—Centrifugal circulating pump outfit.
- 1—42"x94" Cooling tank.

All brand new—never been used—immediately available. Write or wire

MOFFATT MACHINERY MANUFACTURING CO.

Charlotte, N. C.

TANK CAR TANKS

- 150-10,000 Gal. 150-12,000 Gal.
- Many others of various capacities.
- Cleaned, Tested, painted, Guaranteed.

ZELNICKER IN ST. LOUIS

Rails, Equipment, Machinery, Steel Piling,

Oil Engines, Tanks, etc.

Send for 60 page Bulletin of Bargains.

REVOLVATORS

For Sale

New and rebuilt portable elevators (stackers), hand or electric power, any size and capacity.

Address P. O. Box 1844

Atlanta, Ga.

WANTED

WELDERS AND COMPRESSORS

- Welders Gasoline Driven Portable 250 Ampere.
- Welders Electric Driven 300 Ampere.
- Compressor Gasoline Driven 125 cu. ft. 110 lbs.

ACME STEEL ENGINEERING COMPANY
917 S. Howard St. Baltimore, Md.

TRANSFORMERS AND MOTORS

- 2 Transformers, rated H-60-32.
- 1—440-20-V.
- 2 Transformers, rated H-60-37.
- 5—460-115/230.

Motors from 1/4 HP on up in stock for immediate delivery.

THE OSBORNE & SEXTON MACHY. CO.
Columbus, Ohio

STEAM DRYER BARGAINS

- 10—Bartlett & Snow Steam Jacketed Agitated Reducing Kettles or Steam Dryers, 10' dia. x 3' deep.

In excellent condition.

Address A-471

Care of Manufacturers Record, Baltimore, Md.

FOR SALE

- Gardner-Denver Compressor 110 cu. ft. per minute, and tools. Cost \$1900. In perfect condition. Must be sold immediately to settle estate. Price \$1000 F. O. B. Rock Hill, S. C. Approximately five tons Omaha & Grant pig lead at 1/2 cent below market. For further information write

C. R. THOMPSON

Box 1852

Tampa, Florida

FOR SALE

- 1—McEwen H.R.T. Boiler, 200 horse power, 100 lbs. pressure; never used; price \$350.00 f.o.b. cars Bristol, Va.; also two 100 horse power Erie City boilers at \$250.00 each f.o.b. Bristol, Va., can be inspected our yard at foot of Mary St.

For details write

Nashville Industrial Corp.
Old Hickory, Tennessee



RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES



A. C. GENERATORS. 3 Phase, 60 Cycle

15 KW, 1800 RPM., 120/240 V., Gen. Elec.
50 KW, 1200 RPM., 2300 V., General Elec.
50 KW, 1200 RPM., 230/480 V., Gen. Elec.
62½ KW, 1200 RPM., 2300 V., Elec. Machy. Co.
62½ KW, 1200 RPM., 230/480 V., Elec. Machy. Co.

150 KW, 900 RPM., 230/480 V., Gen. Elec.
V. M. NUSSBAUM & CO.
Fort Wayne Indiana

"Rockford Rebuilt" AIR COMPRESSORS

BELTED

5 x 4 Ingersoll-Rand ER-1
6 x 5 Ingersoll-Rand ER-1
7 x 6 Ingersoll-Rand ER-1
9 x 8 Ingersoll-Rand ER-1
9 x 8 Ingersoll-Rand ER-1
10 x 10 Ingersoll-Rand ER-1
14 x 12 Ingersoll-Rand ER-1
15 x 14 Worthington.

STEAM DRIVEN

Ingersoll Rand Imperial Type 10 14x16
duplex steam cylinders, 20 and 11x16 two stage
air cylinders.

MOTOR DRIVEN

Ingersoll Rand PRE-2 1574 cu. ft. direct
connected to 210 KVA 3-50-220/440 Volt
Gen. Elec. ATI synchronous motor with control.
Fully Guaranteed—Immediate Delivery.

ROCKFORD POWER MACHINERY CO.
620-626 Sixth St. Rockford, Ill.

8" Galvanized Corrugated Pipe

6000 ft. 8" NEW GALVANIZED CORRUGATED pipe in lengths 16 to 20 ft. suitable for exhaust drains, water systems, sewers, etc. Have the necessary connecting sleeves. Price considerably under the market.

2000 ft. 12" Naylor black asphalted spiral welded slip joint pipe, slightly used.

MARINE METAL & SUPPLY CO.
167 South Street New York City

CAST IRON PIPE

Approximately 10,000 feet 10" class B cast iron, bell and spigot water main in 12 ft. lengths. Good as new. Priced very low for immediate shipment. Located Clinchfield, Va.

Nashville Industrial Corp.
Old Hickory, Tennessee

IRON AND STEEL PIPE

Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

CENTRAL PIPE & SUPPLY CO.
Box 1099 Charleston, W. Va.

Woodworking Machinery

1—Yates No. 90 6x15 Planer—fast feed
1—Fay and Egan 7" Moulder
1—Fay and Egan 42" Band Resaw
1—Fay and Egan No. 4 Scroll and Resaw
1—American Double Spindle Shaper
1—Madison No. 5-32" Automatic Lathe
1—Lath Mill with 4 Saws

JOHN HART
Spartanburg, S. C.

PIPE

Rethreaded, reconditioned, guaranteed, suitable for all practical purposes, furnished with new threads and couplings, 400,000 feet in all sizes from 2½" to ¾".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20" and 24".

Large stock of valves and fittings, screwed and flanged. Can make attractive prices.

MARINE METAL & SUPPLY CO.
167 South St., New York City

PIPE NEW

SECOND HAND

Overhauled and Tested
New Threads and Couplings
Established 1904

Albert & Davidson
Pipe Corp.

Second Ave., 50th-51st St., Brooklyn, N. Y.
Telephone Sunset 1900

SATISFACTION

ALBERT PIPE SUPPLY CO., INC.
NEW-RECLAIMED-USED

PIPE

ALL SIZES CUT TO SKETCH
AND STOCKED
BERRY & NORTH 13th STS.
BROOKLYN, N.Y.

GUARANTEED

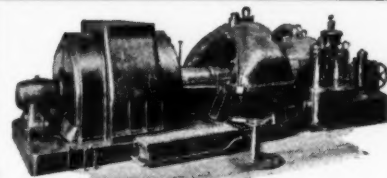
SERVICE PRICES

Second Hand and New Wrought Iron **PIPE** Overhauled Rethreaded and Coupled
Also Cut to Sketch
Greenpoint Iron & Pipe Co., Inc.
187-197 Maspeth Ave. Brooklyn, N. Y.

IDLE MACHINERY

Can be
Disposed of
by
Advertising
it in the

Manufacturers Record
Baltimore, Md.



10,000 KVA Turbo typical of 4 units recently delivered and similar to the following.

PRACTICALLY NEW 100% INTERNAL EXCELLENCE WESTINGHOUSE CONDENSING TURBO UNITS COMPLETE—INSTANT SHIPMENT

1—15,000 KW CW-218 Frame—1800 RPM
1—10,000 KVA CW-118 Frame—1800 RPM
1—7,500 KW CW-78 Frame—1800 RPM
1—5,500 KVA CW-76 Frame—3600 RPM
1—4,000 KVA CW-76 Frame—3600 RPM
1—1,700 KVA CW-26 Frame—3600 RPM
1—1,500 KVA CW-16 Frame—3600 RPM
(3 phase, 60 cycle, standard voltages)

A.S.M.E. CODE DESIGN BOILERS 200-225 lbs.

2—1500 H.P. Cross Drum B & W
2—2650 HP Ladd Bent Tube
5—627 HP Stirling Plant, modern stokers, auxiliaries
8—504 HP B & W Vertical Steel headers, et al.

CONDENSERS MOTOR GENERATOR SETS

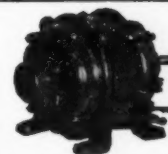
Verification and proof of new equivalent condition easily reached on personal inspection
50% to 200% saving on investment

Send us list of your requirements—or what you have for sale

COME TO CINCINNATI



**It pays
to buy
Gregory**



Hi-Grade-Rebuilt Motors

For over 36 years well-informed buyers have profited by that fact.

Gregory Hi-Grade-Rebuilt Motors do everything that a new motor can do: last as long; look as good; and better still—cost much less.

Why buy new motors? Try Gregory Hi-Grade-Rebuilt and Save Money. They are shipped on approval.

Send for our 80-page Illustrated Monthly Bargain Sheet.



**Gregory
Electric
Company**

Lincoln and 16th Street—Chicago

FOR SALE

750 K.V.A.

Skinner Engine Co.

"UNIVERSAL-UNAFLOW"

Steam Generator Unit

3 ph. 60 cy. 240/480 V. Gen. El. Generator, 140 lbs. Steam, 5 lbs. Back Pressure, Belted Exciter and Switchboards.

Installed New 1927
In perfect condition

For Price and Particulars
Apply to

JOHN D. CRAWBUCK COMPANY
Empire Bldg. Pittsburgh, Pa.

Notice of Trustee's Sale in Bankruptcy

Pursuant to an order of the Hon. H. E. DePass, Referee in Bankruptcy, I will sell at the Court House during the usual hours of Public Sale, at Gaffney, S. C., in the County of Cherokee, to the highest bidder, on July 10th, 1930, at 11 o'clock:

All of the real and personal property of the Globe Manufacturing Company (bankrupt), situated and located near the City Limits of the City of Gaffney, S. C., on the main track of the Southern Railway, about one mile Northeast from Gaffney, S. C., to-wit:

- | | | |
|---|---|---|
| 34 acres of land. | 2 Saco-Pette Intermediates, 11x5½, 76 Spindles each. | Sets of Machine Shop Equipment: |
| 1 Brick Mill Building and 7 Frame Warehouses and Garages. | 2 Saco-Pette Intermediates, 10x5, 104 Spindles each. | 1 Smith & Courtney Lathe, 14". |
| 28 Dwelling Houses. | 8 Saco-Lowell and Saco-Pette Roving Frames, 8x4, 112 to 144 Spindles per Frame. | 1 Gear Cutting Machine. |
| 1 Building used for Church Purposes. | 30 Whiten Spinning Frames, Clutch Spindle, 204 Spindles each, 2" Ring, No. 2 Flange, 4" Gauge, 7" Travers, 4 Frame Motor Drive. | 1 Drill Press. |
| 1 Store Building. | 6 Foster Winders, Model 30, 100 Spindles each, Individual Motor Drive. | 1 Emory Grinding Stand. |
| All of the Machinery and Equipment as follows: | 14 Latest Model B Type Boyce Weaver Knotters. | 1 Air Compressor. |
| 1 Vertical Opener (Saco-Lowell) with bale breaker, 12 foot apron. | 3 Reels, 50 Spindles each, 54" Skein. | 1 Power Hack Saw. |
| 2 40" Kitson Breakers, 1 Three Blade Beater, 1 Two Blade Beater. | Conditioning Equipment Parks-Kramer Electric or Steam Heat. | 1 Blacksmith Hand Power Forge. |
| 1 Kitson Condenser, 1920 Model. | 16 Bronson Humidifiers, installed about 1922. | 1 Electric Drill. |
| 2 40" Kitson Finishers, Needle Beater, 1893 and 1903 Models. | 1 250 Horse Power Dillon Boiler. | 1 Threading Die. |
| 30 Saco-Pette and Whiten Cards, 24" and 27" Doffers. | 1 Steam Engine, size 18x42, No. 171 H. P. Built by C. H. Brown & Co. | 1 Pipe Threading Die. |
| 2 Sets Bronsfield Travers Grinders. | | 1 Carbide Tank. |
| 2 Bronsfield Drum Grinders. | | 2 1½ Ton Standard High Speed Hoists. |
| 1 Stripping Roll. | | 1 Boss Waste Press. |
| 11 Frames, Rebuilt, Saco-Pette Drawing, 56 Deliveries. | | 1 Centrifugal Fire Pump, Capacity 1,000 Gals. per Minute. |
| 3 Saco-Lowell Slubbers, 6x12, 72 Spindles each. | | 1 Mastfoss Pump. |
| | | 1 Power Feed Pump for Boiler. |
| | | 1 Fire Supply Tank, 50,000 Gallons. |
| | | 1 Commercial Supply Tank, for Mill and Village, 10,000 Gallons. |

All machinery, including the fire pump, is electrically driven and equipped with the necessary belting. The spinning is a four-frame drive. All electric switches are conduit safety switches, the Mill building is sprinkled throughout, and carries a very cheap fire rate.

In addition to the foregoing, there is a complete line of bobbins, cans, scales, etc., together with sufficient office furniture and equipment for the operation of the plant on yarn from 8s to 20s.

For further information see the Trustee for inventory and inspection of plant.

All bidders must post a certified check or cash of \$5,000 with the Trustee prior to the beginning of the sale, which amount will be returned to the unsuccessful bidders immediately after the sale, and the check or cash of the successful bidder will be applied on the purchase price, provided he pays the balance of the purchase price by August 1st, 1930,—should the successful bidder fail to comply with these terms, the \$5,000 will be forfeited to the Trustee.

This sale is made subject to the confirmation by the Court, for which purpose a meeting of the Common Creditors has been called at the office of the Hon. H. E. DePass, Referee in Bankruptcy, Spartanburg, S. C., July 10th, 1930, at 3.30 P. M.

H. C. MOORE, Trustee
GAFFNEY, S. C.

BOILERS

- 2—500 H. P. Heine Water Tube, 160 lbs. Pressure, A. S. M. E. code.
- 2—180 H. P. Keeler water tube, 200 lbs. Pressure, A. S. M. E. code.
- 1—150 H. P. 72" x 18' Hor. Ret. Tubular, 150 lb. pressure, A. S. M. E. code.

GENERATOR SETS

- 2—50 KVA 220 volt, 3 phase, 60 cycle Ridgway Generators, direct connected to Ridgway Engines.

METAL WORKING TOOLS

- 6B Nazel hammer, AC motor drive cap. 7" x 7".
- 1100 lbs. Niles Bement Pond single frame steam hammer.
- 1½" Landis bolt cutter, belt drive.
- 34" Aurora upright drill, motor drive, No. 5 taper.
- 16" Higely cold saw, single pulley drive.
- No. 52 Hendley & Whittemore combination punch and shear, cap. ½" x ½".
- No. 1 Gray sheet metal cutter, cap. 3/16" plate, 34" throat.

THE O'BRIEN MACHINERY CO.

113 North Third Street

Philadelphia, Pa.

IF IT'S NEW PIPE OR SECOND HAND

black or galvanized up to 12"—we have it. Cut and threaded to any length. **SPECIAL:** a carload of 3" or 4". Cheap at any time, rethreaded and coupled.

Your inquiry means—Another satisfied customer.

HUDSON PIPE AND SUPPLY COMPANY
34th Street and C. R. R. of N. J. Bayonne, N. J.

YOU may replace certain machinery in your plant this year. Let us help you sell the equipment you will no longer need by advertising it in

THE RESALE DEPARTMENT
Manufacturers Record Baltimore, Md.

5000 TRANSFORMERS

Ready To Ship—All A. I. E. E. Standard

GUARANTEED BARGAINS



The **ELECTRIC SERVICE CO. Inc.**
America's Used Transformer Clearing House
212 Walnut Street Cincinnati, Ohio



We buy modern type transformers—any size—any quantity.
Wanted especially—high voltage large capacity transformers in carload shipments.



RAILROAD AND CONTRACTORS' EQUIPMENT



All This Equipment Is Located at
Sweetwater, Tenn.

STEEL TANKS—Blue Prints or Details on Request

Quan.	Diam.	Size Height or Length		Quan.	Diam.	Size Height or Length	
5	10'-0"	11'-0"	Vertical	1	10'-0"	8'-0"	"
2	10'-0"	11'-0"	"	1	12'-0"	6'-0"	Vertical
5	9'-0"	10'-0"	"	1	10'-0"	6'-6"	"
1	12'-0"	5'-0"	"	2	5'-0"	17'-0"	Horizontal
1	10'-0"	11'-0"	"	3	10'-0"	12'-0"	Vert. with Cover

1—300 K. W. Oil Engine Generator Unit.

MISCELLANEOUS EQUIPMENT

- 2—Webb City & Carterville Foundry Jaw Crushers 14" x 8".
- 2—33" 4 Cage Mills.
- 2—Chain Bucket Elevators, height of each 35'; buckets 9" x 5" x 6", buckets 9" centers.
- 2—Bruckner Type Roasters, 8' diam. x 20'.
- 1—6' x 125' Self-supporting steel stack, A-1 condition.
- 15—Dryer Cars 30" Gauge, 68" long, 54" wide, 70" high.
- 2—Open Top or charging cars, sloping bottom with 12" discharge; 30" track gauge.
- 1—7½ Gyrotory Crusher.

20,000 ft. large Oak Timbers.

THE EQUIPMENT SALES CO., R. W. Storrs, Jr., Mgr., Richmond, Va.

Contractors' Equipment

- 1—Marion Model "37" High Lift, Priced Low.
- 1—50 "B" Bucyrus, High Lift, Good Condition, New Cast Steel Underframe, Caterpillar Mounted.
- 1—Marion Model "350", 90' Boom, 60' Stick, 6 Yd. Bucket. Very reasonably priced.
- 1—Erie "B" ¾ Yd. Full Crawler, 2 Speed.
- 1—Air Compressor, Sullivan, 110' Portable.
- 1—Air Compressor, Sullivan, 220' Portable.
- 1—"21" Parsons Ditcher, Good Condition.

DEMPSTER EQUIPMENT COMPANY
KNOXVILLE, TENN. . . . TEL 2-4189
RENT — LEASE — SELL
SHOVELS — CRANES — LOCOMOTIVES —
CARS — AIR COMPRESSORS

BEARCATS, PAVERS, ROLLERS, HOISTS

Attractive bargains in used equipment for the road and building contractor.

- 2—27E Koehring Pavers.
- 1—21E Ransome Paver.
- 1—Case 10 Ton Roller.

H. O. Penn Machinery Co., Inc.
140th St. and East River, New York City

RENTAL Contractors Equipment

Can Be
Had
By

Writing, Phoning or Wiring

J. R. CHRISTIAN CO.
Post Dispatch Bldg.
HOUSTON

Your ADVERTISEMENT

in these pages places your facilities before the leaders in manufacturing and industrial operations in the South and Southwest, creating wider markets for your products.

Advertising rates gladly submitted upon request

MANUFACTURERS RECORD
Baltimore Maryland

IMMEDIATE SHIPMENT

4000 tons of 85 lb. ASCE Open Hearth rail with angle bars. Attractive prices quoted. Wire or write for prices.

M. K. FRANK
220 East 42nd Street New York City
Clark Building
Pittsburgh, Pa.

FOR SALE

- 14—8-yd. 2-way Dump cars 36" gauge.
- 4—15-ton Porter Locomotives, Saddle Tank, 36" gauge.
- 1—25-ton Porter Locomotive, Saddle Tank, Standard gauge.
- 1—10-ton Steel Guy Derrick, 100' mast, 90' boom, 16" bull-wheel; clamshell operation.
- 1—Class "C" Page Bucket.
- 1—1302 ft. Ingersoll-Rand PRE Compressor, direct connected to 215 H. P. Westinghouse Synchronous motor, 3 phase, 60 cycle, 440 volt; complete with belted exciter, receiver and aftercooler.
- 1—Marion 21 Shovel, Standard, ¾-yard dipper, 4 belt crawler No. 5025.
- 1—Marion 37 Shovel, High Lift, 1¼-yd. dipper, full crawler, No. 5178.
- 1—21-E Koehring with boom and bucket, rebuilt.
- 1—13-E Koehring with boom and bucket, also spout, rebuilt.
- 1—21-S Smith Tilter, power loader, with track.
- 150—Tons J. & L. Piling, Section EC-23.75, 35' long.
- 100—Tons Lackawanna 14" Arch Web, 20' long.
- 50—Tons Larsson No. 2 Piling, 20' long.

D. C. ELPHINSTONE
120 S. Calvert St., Baltimore, Md.

Rebuilt and Reconditioned Excavators

For Sale, or Lease With
Option to Buy

Marion No. 32 1 Yard Steam
Shovel on full crawlers. Ready for immediate delivery. An exceptional bargain, located at Pittsburgh.

P&H Model 204, ¾ yard Clam-
shell, 35 foot boom. Has been very carefully reconditioned. At Hoboken plant.

Thew 1 yard Steam Shovel, on wheels
with 20 foot boom. Must move quick, no reasonable offer refused. At New York.

P&H Model 400 Dragline, ¾ yard,
in good shape, ready to go. Located at Memphis.

Erie Gas-Air 1 yard Shovel. Looks
and operates like new. At St. Louis.

P&H Model 206 ¾ yard Shovel.
Thoroughly overhauled and in very good operating condition. At Hoboken plant.

Liberal



Terms

Write or wire at our expense
if you do not see what you want

EXCAVATING EQUIPMENT DEALERS, INC.

Hoboken, N. J. Berkeley, Cal.
1706 Willow Ave. 2437 Ninth St.
West Allis, Wis.
5905 Greenfield Ave.
Los Angeles Chicago, Ill.
2248 E. 37th St. 1040 W. Division St.

FOR SALE OR RENT

- 2—Keystone Graders, Model No. 4.
- 1—10 ton Monarch 3 wheel Steam Roller.
- 1—5 ton Buffalo Tandem Steam Roller.
- 2—10 ton Buffalo Springfield Steam Rollers.
- Large stock Rock Crushers, Screens and Elevators.

JOHNSON & HOEHLER
Fernwood, Del. Co. Pennsylvania

FOR SALE

20 inch Hydraulic Dredge Steel Hull
Oil Burning.

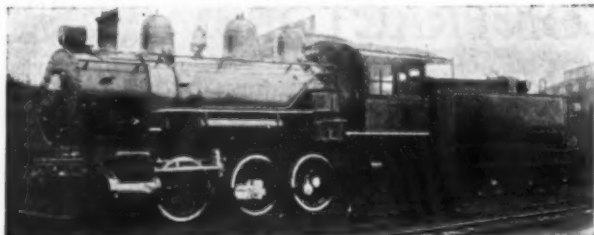
H. P. GUION
803 West 42nd St. New York City
Pennsylvania 4134

ELECTRIC DREDGE

15 inch Hydraulic dredge steel pontoon hull pump, directly driven, 500 h. p. motor with flexibles and 2000 ft. of 15" pipe for sale cheap. Located at Jacksonville, Fla.

J. E. PRICE
384 Ocean Ave. Daytona Beach, Fla.

FOR SALE



75-ton, American Loco. Co., 20x26", 6-driver switcher, 44" wheel centers; 11' wheel base, 300 pound pressure; tractive power 36000 pounds; air brakes, cross-compound pump; power reverse; 5000 gallon tank; steel cab; steel tender frame; completely overhauled. I.C.C. full time. ENTIRELY NEW A.S.M.E. and OHIO BOILER IN 1923.

WE HAVE OVER FORTY LOCOMOTIVES OVERHAULED AND READY: ALL TYPES, SADDLE TANKS AND WITH SEPARATE TENDERS, 5 TO 100 TONS; ALSO DUMP CARS, STEAM AND GASOLINE CRANES AND SHOVELS, ETC.

SOUTHERN IRON & EQUIPMENT CO. (Est. 1889) ATLANTA, GA.

RELAYING RAIL

5 Miles 30-lb.	20 Miles 70-lb.
10 Miles 40-lb.	5 Miles 75-lb.
5 Miles 50-lb.	10 Miles 80-lb.
10 Miles 60-lb.	3 Miles 90-lb.

Also other sections for southern delivery

WELLER & COMPANY
NEW AND RELAYING RAIL
BIRMINGHAM ALABAMA

RAILROAD and CONTRACTORS EQUIPMENT

40 Standard and 36" Gauge Modern Direct-connected Locomotives, in all types and weights from 3 to 75 tons.
10 Standard and 36" Gauge Geared Locomotives, all weights.
15 Steam Shovels and Locomotive Cranes of different types and sizes.
3000 Tons Relaying Rails, all sizes, on our Birmingham yards.
100 Sets 35 and 40-lb. Frogs and Switches; good as new.

Tie plates, track spikes and track bolts, immediate shipment from Birmingham stock

Your inquiries will receive careful and prompt attention

BIRMINGHAM RAIL & LOCOMOTIVE CO., Birmingham, Ala.

100 Tons

**85 lb. A.S.C.E
RELAYING RAILS**

HENRY LEVIS & COMPANY
Commercial Trust Bldg. Philadelphia

**RELAYING RAILS — SWITCHES
TRACK MATERIAL**

THE PERRY BUXTON DOANE CO.
Pennsylvania Bldg. Philadelphia, Pa.

**RAILS NEW & RELAYING
ALL WEIGHTS**

Let us know your needs. We may have material in stock near you.

**WE BUY RAILS FIT TO RE-LAY
ROBINSON & ORR**

Columbia Bldg., 248 Fourth Ave., Pittsburgh, Pa.
New Frogs and Switches at low prices.



Hayward Buckets

"Dig for all the World"

THE HAYWARD COMPANY
50-52 Church St., New York, N.Y.



**WHITCOMB
LOCOMOTIVES**

2 to 100 TONS
GEAR DRIVE AND OIL-ELECTRIC
GASOLINE - DISTILLATE - DIESEL - BATTERY
Write for Bulletins and Performance Data
GEO. D. WHITCOMB CO.
ROCHESTER, ILLINOIS



CARS KOPPEL TRACK
for all engineering and industrial uses
KOPPEL INDUSTRIAL CAR & EQUIPMENT CO.
NEW YORK CHICAGO
SAN FRANCISCO KOPPEL, PA. PITTSBURGH

**BUCYRUS
ERIE**
**SHOVELS
CRANES
DRAGLINES
DREDGES**

KNOWN RELIABILITY!

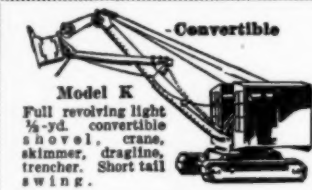
Bucyrus-Erie equipment is known the world over, for dependable, low-cost operation. Shovels, Draglines, Cranes—all sizes—Gas, Diesel, Electric, Gas + Air, Diesel + Air, Steam. Also Railway Cranes, Spreader Plows, etc. Write for bulletins.

BUCYRUS-ERIE COMPANY
So. Milwaukee, Wis., Evansville, Ind., Erie, Pa.

EASTON CARS



for every industrial purpose
Any type to your or our design
EASTON CAR & CONSTRUCTION CO.
10 E 40th Street, New York City, EASTON, PENNA.
PHILADELPHIA PITTSBURGH CHICAGO

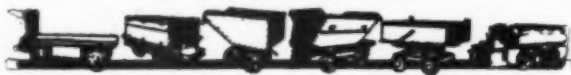


**POWER SHOVELS
Cranes, Trenchers
SKIMMERS**

Full or part circle

BAY CITY SHOVELS, Inc.
Bay City, Mich.

INDUSTRIAL CAR EQUIPMENT



THE ATLAS CAR & MANUFACTURING CO.
Cleveland, Ohio



For Deep and Wide
Excavations Use . . .

SAUERMAN CABLEWAYS

These machines dig, convey and elevate from pit to bin or pile in a straight-line operation.

Write for free catalog

SAUERMAN BROS., INC.
490 S. Clinton St. Chicago

Roebbling
"Blue Center"
STEEL WIRE ROPE
John A. Roebbling's Sons Company, Trenton, New Jersey

REDUCING MATERIAL HANDLING COSTS (One of a series of editorials on this important subject)

Are You Digging Your Way Out of the Hole? or Into It?

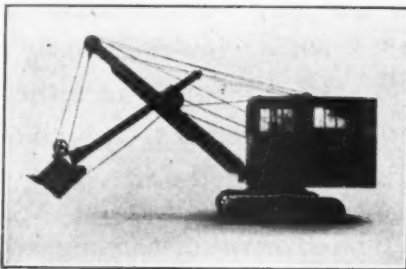


Frequently a contractor figures around in a circle and meets himself coming back. He doesn't know whether he's digging his way *into* the hole or *out* of it. You've probably been there yourself.

The one sure way to keep on the right side of the ledger is to base your estimates on low-cost performance—and use fast-working economical equipment that leaves you a profit margin.

When it comes to general material handling service—you've got to place your bets on equipment such as the quick, versatile, easily handled UNIT Shovel! "More dips per minute" with a UNIT means more yardage per day—without the expense and upkeep cost of a big machine.

The UNIT turntable is mounted on rollers that run on roller bearings. Reducing friction at this point naturally results in quick movement to and from the dip.



Model 512 UNIT Shovel. Full Revolving.

A positive, independent forward and reverse crowd (the result of a special crowd line hook-up) assures snappy control of the dipper stick. Fast on the dip, speedy on the get-away, quick to discharge. Even the stickiest materials can be quickly shaken out of the UNIT dipper. The weight of the boom automatically acts as a shock-absorber, thus relieving gears and cable of undue strain.

"More dips per minute"—means finishing the job on time—digging your way *out* of the hole instead of *into* it!

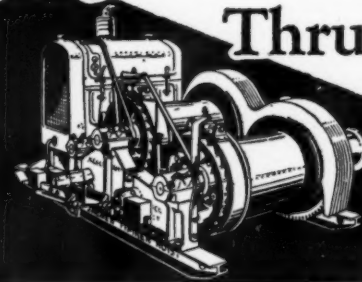
This is one of a number of interesting UNIT innovations that contribute to lower material handling costs. The balance of the story is equally interesting—mailed to you on request.

UNIVERSAL POWER SHOVEL COMPANY
Division of Unit Corporation of America
Bankers Building Milwaukee, Wisconsin

POWER UNIT SHOVELS

Jaeger Timken Screw Thrust Hoists

10 to 50 H.P.



Advanced design, single or double, gas or electric. New low prices. Write for catalog.
THE JAEGER MACHINE COMPANY
115 Dublin Avenue, Columbus, Ohio

\$600
buys double
drum, 4 cyl.
eng. SPEED
BOY—Get our
other prices!

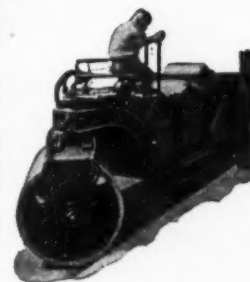
"No honeycombing— and a smooth even pavement"

Contractors write us that there's no sinking or bridging with an ERIE Roller.

The reason is plain: The ERIE compacts the asphalt uniformly because $\frac{3}{4}$ of the weight of this roller is concentrated over the compression roll.

Roll the job with an ERIE and your margin of profit is larger. Write today for Bulletin "M."

ERIE MACHINE SHOPS
Erie, Pa.



ERIE ROLLERS

HUBER

4 CYLINDER

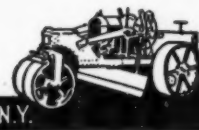
MOTOR ROLLER

THE HUBER MANUFACTURING COMPANY
310 E. CENTER—MARION, O. SEND FOR CATALOG

ACME ROAD MACHINERY COMPANY, FRANKFORT, N.Y.

ACME Portable Bins

ACME ROAD MACHY. CO. FRANKFORT, N.Y.



MUNDY HOISTS

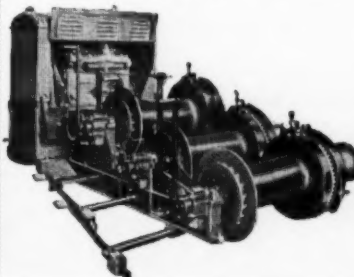
Gasoline—Electric—Steam

Standard of the World

CAR PULLERS
CABLEWAYS

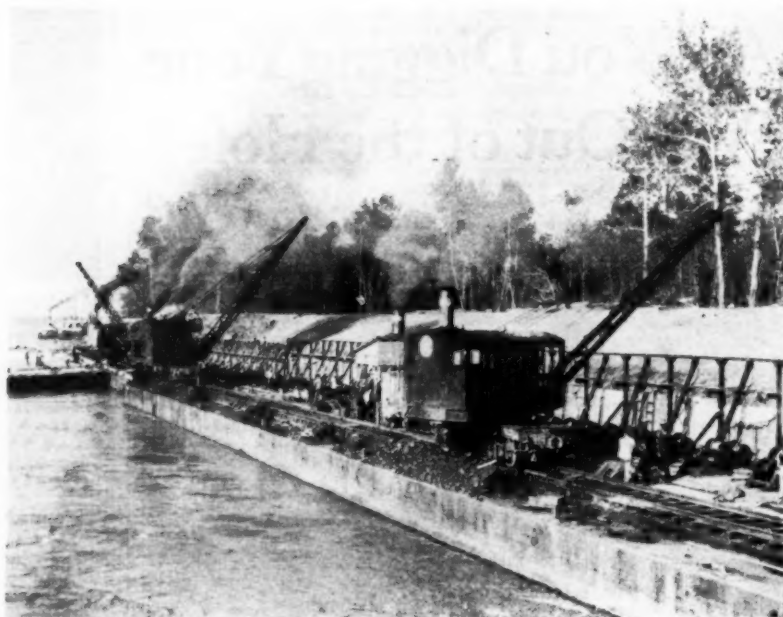
TRADE MARK
MUNDY
ESTABLISHED 1869

J. S. Mundy
Hoisting Engine Co.
Frelinghuysen Ave.
Newark, N. J.



A CRANE FOR EVERY HANDLING NEED

"SHINGLING" THE BOTTOM

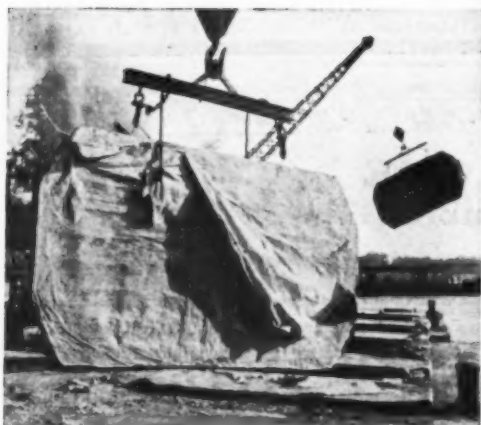


OF THE MISSISSIPPI

Laying a concrete shingle "roof" of gigantic proportions on the sloping bottom of the Mississippi River is one of the methods being employed to prevent caving-in of the unprotected river banks.

Industrial Brownhoist cranes are much in evidence around the unique Sinking Plant of this enormous flood control project.

The cranes, operating from barges, pick up the 3,300 pound concrete slabs from the supply barge and swing them over to a steel frame where they are hung from cables and thence lowered to the river bottom where the "shingling" is carried on.



Gigantic "shingles" being handled by the cranes

An Industrial Brownhoist crane is not only an important factor on an unique construction job such as this, but is invaluable on any handling work where time and money saving means so much. One of our nearby factory-trained representatives will be glad to call on you and help you with your handling problems.

Industrial Brownhoist Corporation, General Offices, Cleveland, Ohio

District Offices: New York, Philadelphia, Pittsburgh, Detroit, Chicago, New Orleans, San Francisco, Cleveland.

Plants: Brownhoist Division, Cleveland; Industrial Division, Bay City, Michigan; Elyria Foundry Division, Elyria, Ohio.

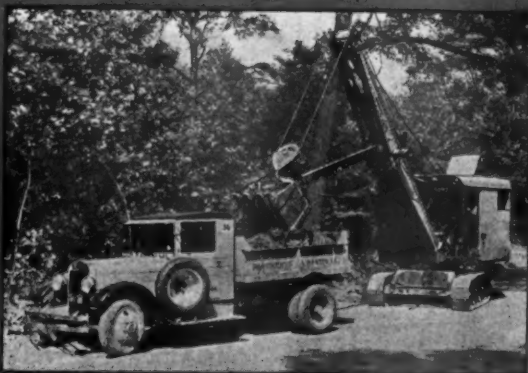
INDUSTRIAL BROWNHOIST



UNIVERSAL³⁵

THIS YEAR, differences between low and second low bids are closer than ever. ▲ Right now is the time to investigate a machine that is built for close figures—the ½ yd. Universal 35. It isn't built to handle, and it won't handle, 1000 yds. a day. That's a job for a bigger machine. But it will handle 300 to 500 yds. a day on work where it will not pay to use a 1000 yd. machine. Clean up work, short jobs that require the correct tool in order to be profitable: these are easy for the Universal 35—convertible to shovel, crane, clamshell, dragline, backdigger, skimmer scoop operation, the most useful machine you can own.

THE UNIVERSAL CRANE CO.
LORAIN, OHIO



Southeast Sales Office:
First National Bank Bldg., Atlanta, Ga.



Southwest Sales Office:
1415 Magnolia Bldg., Dallas, Tex.

Only about BRICK PAVEMENTS Can These Things Be Said

Twenty, thirty, even forty years of constant service from brick pavements is not unusual to users of brick pavements, giving a yearly cost that is by far the lowest for any pavement. And then the wearing surface is turned for service of a similar term of years.

You get such service from brick pavements **ONLY**.

Brick is the biggest dollar's worth of pavement value that money can buy. Heat cannot soften it—moisture cannot spall and crack it because vitrified brick are non-absorbent and impervious to weather conditions. Neither rubber nor steel tires can wear them out. So the pavement lasts on and on—a paid-up investment that requires the minimum amount of attention or upkeep.

Face the future in planning road and street programs. Select the pavements that give you the lowest yearly cost over the longest period of time. Get the service from your pavements that only brick can give.

For further information or engineering data on brick pavements, address National Paving Brick Manufacturers Association, 1245 National Press Building, Washington, D. C.

VITRIFIED

BRICK PAVEMENTS

FACE THE FUTURE --- PAVE WITH BRICK

SAND

Bank Building Concrete Paving

WASHED GRAVEL

In Car, Scow and Barge Lots

THE ARUNDEL CORPORATION

BALTIMORE, MD.

Office, PIER 2, PRATT STREET

Wharves: PIER 2, PRATT ST., and FOOT OF CLINTON ST.

SAND—GRAVEL—BRICK FILTER GRAVEL

Washed Sand and Gravel for Concrete
Roads and Buildings

Filter Gravel, all sizes—Building Bricks

FRIEND & CO., INC. River St., Petersburg, Va.



for economy and permanence in Road Building and General Construction

WOODSTOCK SLAG CORP.

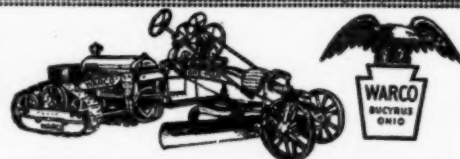
Southern Railway Bldg., Birmingham, Ala.

Crushed Stone
Mascot Chatts Roofing Gravel
Asphaltic Roadway Gravel
Asphalt Filler Dust

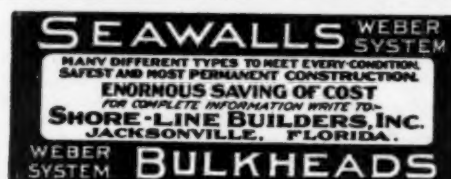


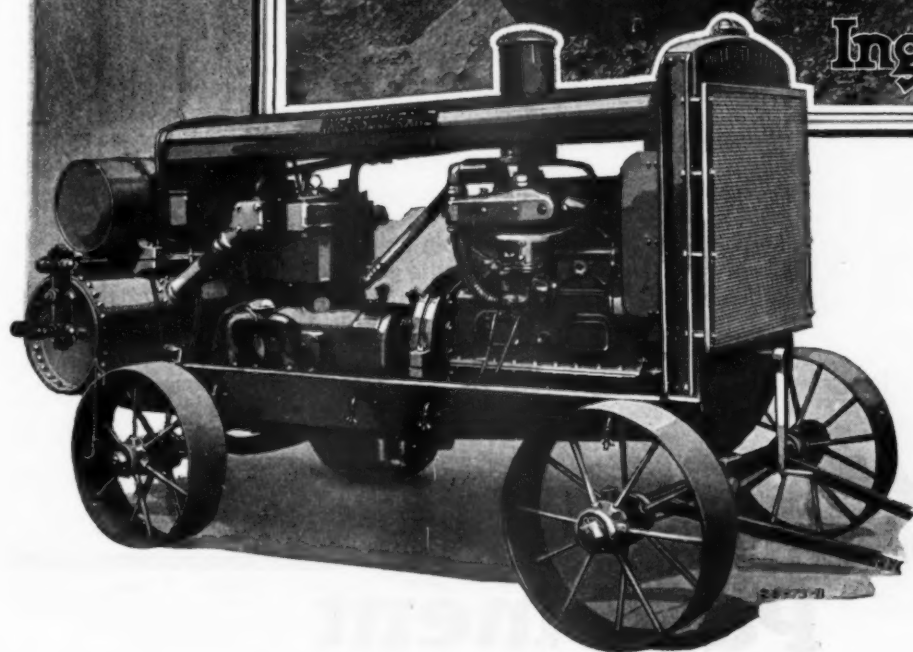
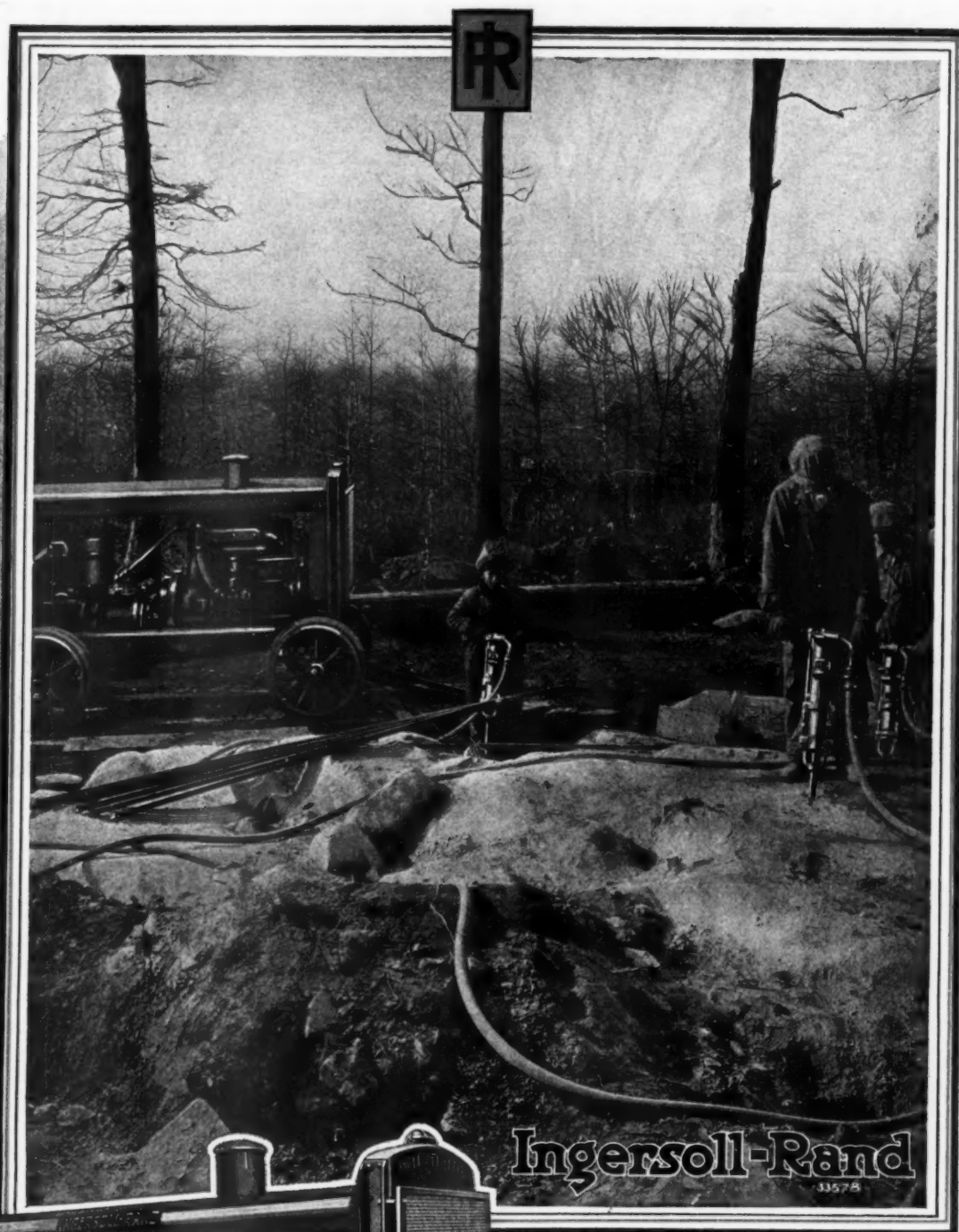
AMERICAN LIMESTONE COMPANY
KNOXVILLE TENNESSEE

Graders
Crawlers
Scoops



W.A. RIDDELL CO., BUCYRUS, O.





Ingersoll-Rand

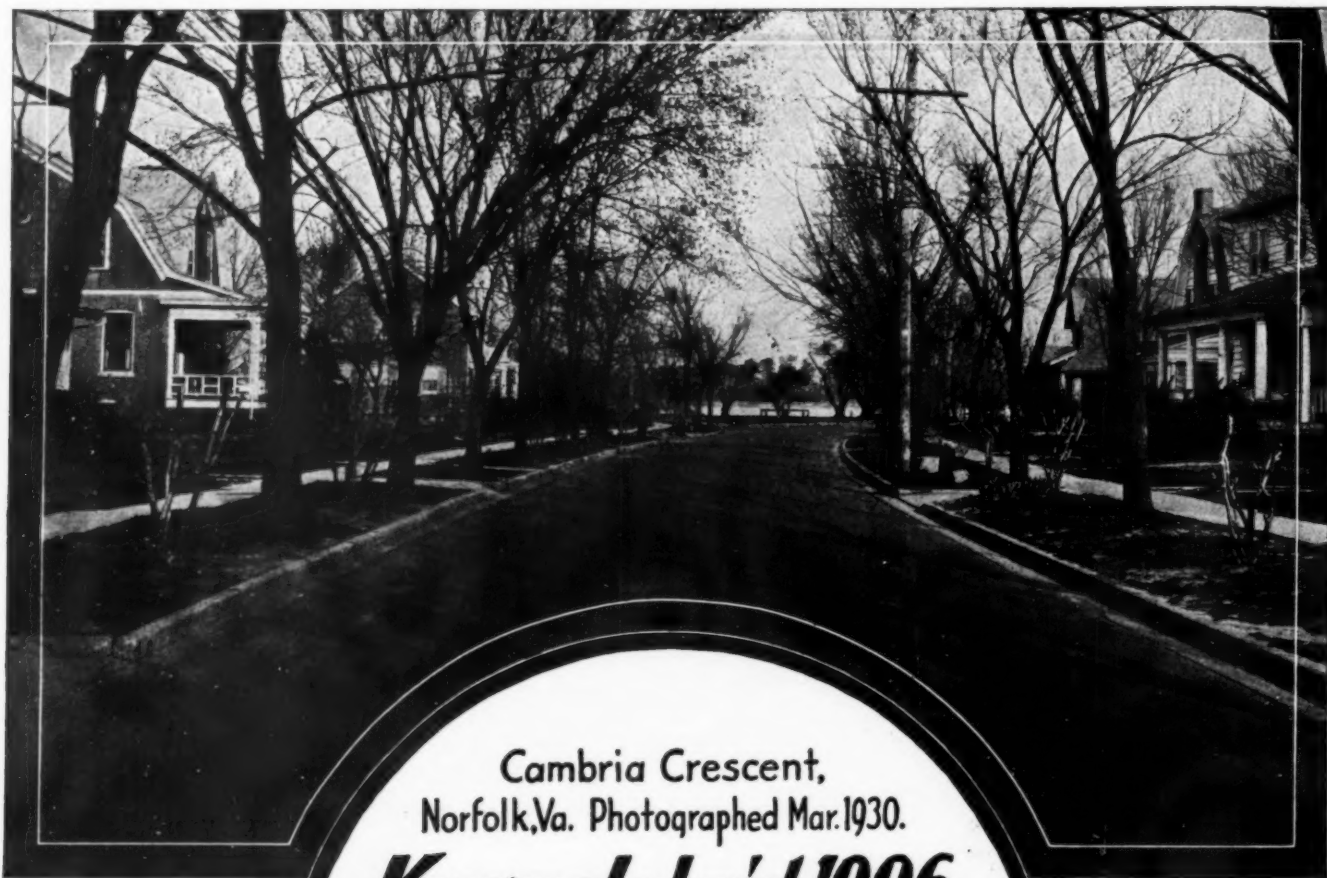
Cost Cutters

The superior performance of I-R "Jackhammer" Drills and Portable Compressors has led to their adoption by a great many contractors and public utility companies throughout the world.

These outfits are powerful, well-constructed, and thoroughly reliable; they speed operations and lower costs under all working conditions.

INGERSOLL-RAND CO.

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249-PC



Cambria Crescent,
Norfolk, Va. Photographed Mar. 1930.

Kyrocks Laid 1906
24 Years under Traffic
Maintenance - Negligible
A Good Street
To-Day

Cambria Crescent, Norfolk, Va.
 A Kyrock surface, now in its 24th
 year of continuous service. It is without
 ruts, cracks or waves. Its resiliency is unimpaired.
 Test measurements do not disclose any abrasive wear
 and its surface retains its initial coefficient of friction.
 Laboratory tests of samples cut from this surface in
 February, 1930, show no chemical change in the bit-
 umen and no loss in bitumen content. Kyrock does
 not lose its life.

Many miles of streets and high-
 ways of various types laid 10, 15
 years ago have taken a toll for main-
 tenance equal to their original construction cost
 — many have disintegrated and been replaced.
 This Kyrock street has given uninterrupted service
 for 24 years at but little more than its original con-
 struction cost. It is good for many years to come.
 On the basis of cost per mile per year, Kyrock is
 the cheapest material available.

Investigate Kyrock. KENTUCKY ROCK ASPHALT CO., Incorporated, Marion E. Taylor Bldg., Louisville, Ky.

Kyrocks
 The Uniform
Pavement



Classified Reference Index for Buyers

ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

ACCOUNTANTS (Cert. and Cost.)

Black & Co., Baltimore, Md.
Ernst & Ernst, New York, N. Y.
Hollowell Gorham & Co., Greensboro, N. C.
Le Baron, E. T., Jacksonville, Fla.

AERIAL MAPS and SURVEYS.

Airmap Corp. of Amer., Brooklyn, N. Y.
Lacey & Co., Jas. D., New York, N. Y.

AIR COMPRESSORS (Stationary and Portable.)

Chicago Pneumatic Tool Co., New York.
De Laval Steam Turbine Co., Trantam, N. J.
General Electric Co., Schenectady, N. Y.
Ingersoll-Rand Co., New York, N. Y.
New Engine Co., Lansing, Mich.
O. K. Clute & Mch. Co., Columbia, Pa.
Quincy Compressor Co., Quincy, Ill.
Sullivan Machinery Co., Chicago, Ill.
Westinghouse Traction Brake Co., Wheeling, Pa.

AIR CONDITIONING SYSTEMS.

Skinner Bros. Mfg. Co., St. Louis, Mo.
Swartwout Co., Cleveland, Ohio.

AIRPORTS.

Shaw Co., Russell B., St. Louis, Mo.

ALUMINUM BRONZE POWDER.

Aluminum Co. of Amer., Pittsburgh.

AMMONIA Valves and Fittings.

Vogt Mch. Co., Henry, Louisville, Ky.

ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

APPRAISERS.

American Appraisal Co., Milwaukee, Wis.
Conard & Busby, Burlington, N. J.
Main, Inc., Chas. T., Boston, Mass.

ARCHITECTS.

Bond, Geo. Harwell, Atlanta, Ga.
Chase, Wm. J., Atlanta.
Lindley, Claude H., Jackson, Miss.
Main, Inc., Chas. T., Boston, Mass.
Milburn, Heister & Co., Wash., D. C.
Meyer Co., Tilghman, Allentown, Pa.
Simmons, Inc. & Associates, B. Stanley, Washington, D. C.
Freacher & Co., Inc., G. Lloyd, Atlanta.
Hirsh & Co., J. E., Greenville, S. C.
Wheeler, Walter H., Minneapolis, Minn.
Widner Engineering Co., St. Louis, Mo.

—(Golf Course, Landscape.)

Draper, E. S., Charlotte, N. C.
Kirby & Co., Raleigh, N. C.
Miller & Asso., Wendell P., Columbus, O.
Spoon & Lewis, Greensboro, N. C.

ARCHITECTS' SUPPLIES.

Weber Co., Inc., Philadelphia, Pa.

ARCHITECTURAL BRONZE.

Chase Brass & Copper Co., Waterbury, Conn.

—Iron Work.

Dietrich Brothers, Baltimore, Md.
Virginia Bridge & Iron Co., Roanoke, Va.

ASH Removal Systems (Gates, Hoppers, Quenchers, etc.)

Allen-Sherman-Hoff Co., Phila., Pa.

—Sticking Systems.

Allen-Sherman-Hoff Co., Phila., Pa.

—Storage Tanks (Cast Iron.)

Allen-Sherman-Hoff Co., Phila., Pa.

ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

—Filler.

American Limestone Co., Knoxville, Tenn.
Serviced Premoulded Products, Inc., Chicago, Ill.

—(Rock.)

Kentucky Rock Asphalt Co., Louisville, Ky.

AUDITORS.

Black & Co., Baltimore, Md.
Ernst & Ernst, New York, N. Y.
Hollowell Gorham & Co., Greensboro, N. C.
Le Baron, Ernest T., Jacksonville, Fla.

BABBIT METAL.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

BACKFILLERS.

Austin Machinery Corp., Muskegon, Mich.
Buckeye Traction Ditcher Co., Findlay, O.
Harnischfeger Corp., Milwaukee, Wis.
National Equipment Corp. (Insley, Parsons), Milwaukee, Wis.

BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

BANKERS and BROKERS.

Provident Savings Bank & Trust Co., Cincinnati, Ohio.
Taylor, Wilson & Co., Inc., Cincinnati, Ohio.

BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto., Md.
Bank of Alabama, The, Ensley, Ala.
Bank of New York & Trust Co., N. Y.
Equitable Trust Co., New York, N. Y.
First and Merchants National Bank, Richmond, Va.
Maryland Trust Co., Baltimore, Md.
Mercantile Trust Co., Baltimore, Md.

BARGES (Steel.)

American Bridge Co., New York, N. Y.
McClintic-Marshall Co., Pittsburgh, Pa.

BARB (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.
Commer Steel Co., Birmingham, Ala.
Gulf States Steel Co., Birmingham, Ala.
Knoxville Iron Co., Knoxville, Tenn.
Republic Steel Corp., Youngstown, Ohio.
Ryerson & Son, Inc., Jos. T., St. Louis, and New York.
Sweet's Steel Corp., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Timken Roller Bearing Co., Canton, Ohio.
Virginia Bridge & Iron Co., Roanoke, Va.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

BEARINGS (Anti-friction.)

Hyatt Roller Bearing Co., Newark, N. J.
Timken Roller Bearing Co., Canton, Ohio.

—(Line Shaft.)

Wood's Sons Co., T. B., Chambersburg, Pa.

—(Roller.)

Hyatt Roller Bearing Co., Newark, N. J.
Timken Roller Bearing Co., Canton, Ohio.

BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

Morse Chain Co., Ithaca, N. Y.

—(Leather, Canvas, Rubber.)

Charlotte Leather Belting Co., Charlotte, N. C.

Republic Rubber Co., Youngstown, Ohio.

—Dressing.

Dixon Crucible Co., Jos., Jersey City, N. J.

—Conveyors.

Barber-Greene Co., Aurora, Ill.

BENCH LEGS.

Angle Steel Stool Co., Plainwell, Mich.

—Drawers (Steel.)

Angle Steel Stool Co., Plainwell, Mich.

BENCHES AND TABLES.

(Steel.)

Angle Steel Stool Co., Plainwell, Mich.

BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.
Republic Steel Corp., Youngstown, Ohio.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

BINS (Drill and Reamer.)

Angle Steel Stool Co., Plainwell, Mich.

—(Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.

BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.
Hercules Powder Co., Inc., Wilmington, Del.

BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

BLOCKS (Chain.)

Harrington Co., The, Philadelphia, Pa.

—TACKLE for Wire and Manila Rope.

Patterson Co., W. W., Pittsburgh.

BLOWERS and Exhaust Fans.

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La.

BLOW PIPE SYSTEMS.

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La.
Skinner Bros. Mfg. Co., St. Louis, Mo.

BOILERS (New.)

Babcock & Wilcox Co., The, New York.
Charleston Dry Dock & Machine Co., Charleston, S. C.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Cole Mfg. Co., R. D., Newman, Ga.
Combustion Eng. Corp., New York, N. Y.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Lombard Iron Works & Supply Co., Augusta, Ga.
Schmidt's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.
Vogt Mch. Co., Henry, Louisville, Ky.

—(Used.)

Delta Equipment Co., Philadelphia, Pa.
O'Brien Machinery Co., Philadelphia, Pa.
Randle Machinery Co., The, Cincinnati, O.
Zelicker Supply Co., W. A., St. Louis.

BOILER SETTINGS.

Harrison-Walker Refractories Co., Pittsburg.

—Tubes.

Boiler Tube Co. of America, Pittsburgh.
National Tube Co., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.
Progressive Mfg. Co., Torrington, Conn.
Republic Steel Corp., Youngstown, Ohio.
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Track.)

Sweet's Steel Co., Williamsport, Pa.

BOND BUYERS.

Garraway & Co., S. G., Chicago.
Hanchett Bond Co., Inc., The, Chicago.
Law & Co., A. M., Spartanburg, S. C.
Marr & Co., Birmingham, Ala.
Mercantile Trust Co., Baltimore, Md.
Nuveen & Co., John, Chicago, Ill.
Provident Savings Bank and Trust Co., Cincinnati, Ohio.

Robinson-Humphrey Co., Atlanta, Ga.
Seasongood & Mayer, Cincinnati, Ohio.
Taylor, Wilson & Co., Inc., Cincinnati, Ohio.

BORING (Core.)

Mott Core Drilling Co., Huntington, W. Va.
Pennsylvania Drilling Co., Pittsburgh, Pa.
Southern Drilling Co., Baltimore, Va.
Sprague & Henwood, Inc., Scranton, Pa.

BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

BRASS GOODS.

Chase Brass & Copper Co., Waterbury, Conn.
Copper and Brass Research Asso., New York.
Mueller Co., Decatur, Ill.

BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

—(Face.)

Alabama Clay Prod. Co., Birmingham.

—(Fire.)

Alabama Clay Prod. Co., Birmingham.
Cambria Clay Products Co., Blackfork, O.
Dee Co., Wm. E., Oak Hill, Ohio.
Taylor Sons Co., Charles, Cincinnati.

—(Vitrified, Paving.)

Natl. Paving Brick Mfrs. Asso., Washington, D. C.

—and Clayworking Machy.

Dunn Mfg. Co., W. E., Holland, Mich.
Steel & Sons, J. C., Statesville, N. C.

BRIDGE (Asphalt Planking.)

Serviced Premoulded Products, Inc., Chicago, Ill.

—Operating Machinery

Earle Gear & Machine Co., Phila., Pa.

—Timber.

Amer. Creosoting Co., Louisville, Ky.
Industrial Lumber Co., Elizabeth, La.
Kirby Lumber Co., Houston, Texas.

BRIDGES (Concrete.)

Atlantic Bridge Co., Greensboro, N. C.

—(Creosoted Wood.)

Atlantic Bridge Co., Greensboro, N. C.

—(Steel.)

American Bridge Co., New York, N. Y.
Atlantic Bridge Co., Greensboro, N. C.
Belmont Iron Works, Philadelphia, Pa.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Champion Bridge Co., Wilmington, O.
Converse Bridge & Steel Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Nashville Bridge Co., Nashville, Tenn.
Richmond Struct. Steel Co., Richmond, Va.
Virginia Bridge & Iron Co., Roanoke, Va.

BRONZE (Architectural.)

Heath Company, J. S., Waukegan, Ill.

—(Machine.)

Moccasin Brushing Co., Chattanooga, Tenn.

BUBBLERS.

Rundie-Spence Mfg. Co., Milwaukee, Wis.
Taylor Co., Halsey W., Warren, Ohio.

BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.
Hayward Co., The, New York, N. Y.
Industrial Brownhoist Corp., Cleveland, O.
Owen Bucket Co., The, Cleveland, Ohio.

—(Dredging, Excavating, Sewer, etc.)

Hayward Co., The, New York, N. Y.
Monahan Mfg. Corp., Chicago, Ill.
Owen Bucket Co., The, Cleveland, Ohio.
Stuebner Iron Works, G. L., Long Island City, N. Y.

—(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.
Webster & Waller Mfg. Companies, Chicago, Ill.

—(Orange Peel.)

Hayward Co., The, New York, N. Y.

—(Ore Handling.)

Hayward Co., The, New York, N. Y.
Owen Bucket Co., The, Cleveland, Ohio.
Stuebner Iron Works, G. L., Long Island City, N. Y.

BUILDERS and Contractors.
Barstow & Co., W. S., Reading, Pa.
Moyer Co., Tighman, Allentown, Pa.
Stone & Webster, Inc., Boston, Mass.
Thompson & Bros., T. C., Charlotte, N. C.
White Engineering Corp., J. G., New York.

BUILDINGS (Industrial.)
Belmont Iron Works, Philadelphia, Pa.
Blaw-Knox Co., Pittsburgh, Pa.
Braden Steel Corp., Tulsa, Okla.
Butler Mfg. Co., Kansas City, Mo.
Maryland Metal Building Co., Balto., Md.
McClintic-Marshall Co., Pittsburgh, Pa.
Nashville Bridge Co., Nashville, Tenn.
Truscon Steel Co., Youngstown, Ohio.
Virginia Bridge & Iron Co., Roanoke, Va.

(Portable Sheet Metal.)
Braden Steel Corp., Tulsa, Okla.
Butler Mfg. Co., Kansas City, Mo.
Maryland Metal Building Co., Balto., Md.

BULKHEADS.
Shore-Line Builders, Inc., Jacksonville, Fla.
Snare Corp., Frederick, New York, N. Y.

BULLDOZERS.
Beatty Machine & Mfg. Co., Hammond, Ind.
Trackson Co., Milwaukee, Wis.

BUSHINGS (Brass and Bronze.)
Moccasin Bushing Co., Chattanooga, Tenn.

BUSINESS METHODS.
Ernst & Ernst, New York, N. Y.

CABINETS (Steel.)
Angle Steel Stool Co., Plainwell, Mich.

CABLES (Stud Link.)
Woodhouse Chain Works, Trenton, N. J.

—and Wire (Electric.)
American Steel & Wire Co., Balto., Md.
Okonite Co., New York, N. Y.
Roebbling's Sons Co., John A., Trenton, N. J.
Western Electric Co., New York City.

CABLEWAYS (Overhead Suspension.)
Broderick & Bascom Rope Co., St. Louis.
Bauerman Bros., Chicago, Ill.

CALCIUM CHLORIDE.
Grasselli Chemical Co., Inc., Birmingham, Ala.

CAN and Box-Making Machinery (Tin.)
Bliss Co., E. W., Brooklyn, N. Y.

CAR Loaders and Unloaders.
Barber-Greene Co., Aurora, Ill.
Stephens-Adamson Mfg. Co., Birmingham, Ala.

—Pullers.
Webster & Weller Mfg. Companies, Chicago, Ill.

CARS (Dump, Industrial, Logging and Mine.)
Atlas Car & Mfg. Co., The, Cleveland, O.
Easton Car & Construction Co., Easton, Pa.
Koppel Ind. Car & Equip. Co., Koppel, Pa.
Southern Iron & Equipment Co., Atlanta.

—Steps (Safety.)
Irving Iron Works Co., Long Island City, N. Y.

CASTERS (Truck.)
Service Caster & Truck Co., Albion, Mich.

CASTINGS (Brass, Bronze and Aluminum.)
Inter-State Fdry. & Mach. Wks., Johnson City, Tenn.
Moccasin Bushing Co., Chattanooga, Tenn.

—(Chilled Iron.)
Fuller Lehigh Co., Fullerton, Penna.

—(Gray Iron.)
Fuller Lehigh Co., Fullerton, Penna.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

—Inter-State Fdry. & Mach. Wks., Johnson City, Tenn.

National Cast Iron Pipe Co., Birmingham, Ala.

Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Salem Fdry. & Mach. Wks., Salem, Va.

U. S. Pipe & Foundry Co., Burlington, N. J.

—(Malleable Iron and Steel.)
Timken Roller Bearing Co., Canton, O.

—(Semi-Steel.)
Salem Fdry. & Machine Works, Salem, Va.

—(Steel.)
Bethlehem Steel Co., Bethlehem, Pa.
Crucible Steel Casting Co., Lansdowne, Delaware Co., Pa.
Deemer Steel Casting Co., New Castle, Del.
Lunkensheimer Co., Cincinnati, Ohio.

CEMENT (High Temperature.)
Harbison Walker Refractories Co., Pittsburg.

—(Portland.)
Alpha Portland Cement Corp., Birmingham, Ala.
Lehigh Portland Cement Co., New York.
Louisville Cement Co., Louisville, Ky.
Portland Cement Assn., Chicago, Ill.

—Guns.
Cement-Gun Co., Inc., Allentown, Pa.

—Machinery.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

CHAIN BLOCKS (See Blocks, Chain.)

CHAINS (Dredge, Quarry, Steam Shovel.)
Knoxville Iron Co., Knoxville, Tenn.
Woodhouse Chain Works, Trenton, N. J.

—(High Speed Roller.)
Diamond Chain & Mfg. Co., Indianapolis.

—(Silent Drive.)
Diamond Chain & Mfg. Co., Indianapolis.
Morris Chain Co., Itasca, N. Y.

—(Sprocket.)
Chain Belt Co., Milwaukee, Wis.
Diamond Chain & Mfg. Co., Indianapolis.
Morris Chain Co., Itasca, N. Y.

—(Welded.)
Woodhouse Chain Works, Trenton, N. J.

CHAIRS (Opera and Theatre.)
Andrews Co., A. H., Chicago, Ill.

—and Stools (Steel.)
Angle Steel Stool Co., Plainwell, Mich.

CHEMICALS.
Grasselli Chemical Co., Inc., Birmingham, Ala.

CHEMICAL TOILETS.
Kaustine Co., Inc., Perry, N. Y.

CHEMISTS, CHEMICAL ENGINEERS (Analytical.)
Barrow-Agee Laboratories, Memphis, Tenn.
Flood & Co., Walter H., Chicago, Ill.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Meigs, Bassett & Slaughter, Phila., Pa.
Pittard Laboratories, The, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pittsburgh, Pa.

Southwestern Laboratories, Fort Worth, Texas.

Stillman & Van Stien, New York.

Wiley & Co., Inc., Baltimore, Md.

—(Consulting, Paper Industry.)
Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.)
Rust Engineering Co., Birmingham, Ala.

—(Radial Brick.)
Rust Engineering Co., Birmingham, Ala.

CHLORIDE ACCUMULATOR.
Electric Storage Battery Co., Phila., Pa.

CHLORINATORS.
Rees, S. P., Atlanta.

CIRCUIT BREAKERS.
I. T. E. Circuit Breaker Co., Phila., Pa.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CITY AND TOWN PLANNING.
Draper, E. S., Charlotte, N. C.
Ludlow Engineers, Winston-Salem, N. C.

CLOCKS (For all purposes.)
Kaiser Klock Co., L. E., Baltimore, Md.

—(Watchman's Portable.)
Davis-Paradis Watchman's Clock Corp., New York, N. Y.

Kaiser Klock Co., L. E., Baltimore, Md.

CLUTCHES (Friction.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Schultz & Son, A. L., Chicago, Ill.
Wood's Sons Co., T. B., Chambersburg, Pa.

COAL (Bituminous.)
Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—and Ash-Handling Mch.
Allen-Sherman-Hoff Co., Phila., Pa.

Chain Belt Co., Milwaukee, Wis.

Hayward Co., The, New York, N. Y.

Industrial Brownhoist Corp., Cleveland, O.

Northwest Engineering Co., Chicago.

Stephens-Adamson Mfg. Co., Birmingham, Ala.

Webster & Weller Mfg. Companies, Chicago, Ill.

—Bunkers (Cast Iron.)
Allen-Sherman-Hoff Co., Phila., Pa.

—Tipples.
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

COCKS (Service.)
Merco Nordstrom Valve Co., San Francisco, Calif.

COKE.
Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

COLUMNS (Cast Iron.)
U. S. Pipe & Foundry Co., Burlington, N. J.

COMPRESSORS.
Union Steam Pump Co., Battle Creek, Mich.

—(Gasoline Extraction.)
Sullivan Machinery Co., Chicago, Ill.

CONCRETE (Block Machinery.)
Blystone Mfg. Co., Cambridge Springs, Pa.

—Block Pallets.
Commercial Shearing & Stamping Co., Youngstown, Ohio.

—Construction (Reinforced.)
Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Rust Engineering Co., Birmingham, Ala.

—Floor Slabs.
American Cement Tile Mfg. Co., Pittsburgh, Pa.

—Information Only.
Portland Cement Assn., Chicago, Ill.

—Mixers.
Blystone Mfg. Co., Cambridge Springs, Pa.
Chain Belt Co., Milwaukee, Wis.
Dunning & Bouchert Press Co., Inc., Syracuse, N. Y.

Jaeger Machine Co., Columbus, Ohio.

Lansing Co., Lansing, Mich.

—Pipe Machinery (See Pipe Machinery, Concrete.)

—Placing Equipment.
National Equipment Corp. (Insley Division), Milwaukee, Wis.

—Road Curing.
McEverlast, Inc., Los Angeles, Cal.

—Roofing Tile.
American Cement Tile Mfg. Co., Pittsburgh, Pa.

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Chicago Pneumatic Tool Co., New York.

Ingersoll-Rand Co., New York, N. Y.

Manistee Iron Works Co., Manistee, Mich.

Union Steam Pump Co., Battle Creek, Mich.

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

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Western Electric Co., New York City.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

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—(Bridge.)
Kansas City Bridge Co., Kansas City, Mo.

Snare Corp., Frederick, New York.

—(Drainage and Dredging.)
Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.

—(Electrical.)
Industrial Electrical Co., Savannah, Ga.

Walker Electrical Co., Atlanta, Ga.

Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.)
Calligan & Co., A. H., Richmond, Va.

Snare Corp., Frederick, New York, N. Y.

—(General.)
Angle-Blackford Co., Greensboro, N. C.

Blair, Algernon, Montgomery, Ala.

Charleston Constructors, Inc., Charleston, S. C.

Cornell-Young Co., Inc., Macon, Ga.

Fiske-Carter Constr. Co., Greenville, S. C.

Gridley Constr. Co., Lee A., Knoxville, Tenn.

Saville, Inc., Allen J., Richmond, Va.

Snare Corp., Frederick, New York, N. Y.

Stone & Webster, Inc., Boston, Mass.

Thompson & Bros., T. C., Charlotte, N. C.

Tucker & Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

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Barstow & Co., W. S., Reading, Pa.

Blair, Algernon, Montgomery, Ala.

Fiske-Carter Constr. Co., Greenville, S. C.

Snare Corp., Frederick, New York, N. Y.

Stone & Webster, Inc., Boston, Mass.

Thompson & Bros., T. C., Charlotte, N. C.

Tucker & Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

—Mill Village.
Hornbuckle Contracting Co., Atlanta, Ga.

—(Plastering.)
Gomes & Co., P. L., Atlanta, Ga.

Jennings & Co., Floyd, Atlanta, Ga.

—(Power Plants.)
Snare Corp., Frederick, New York, N. Y.

—(Railroad.)
Calligan & Co., A. H., Richmond, Va.

Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)
Blair, Algernon, Montgomery, Ala.

Cement Gun Construction Co., Chicago.

Gunite Cons. & Constr. Co., Kansas City.

Tucker & Laxton, Charlotte, N. C.

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Gridley Constr. Co., Lee A., Knoxville, Tenn.

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Hardaway Contracting Co., Columbus, Ga.

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McCarty Co., The J. B., Atlanta, Ga.

Snare Corp., Frederick, New York, N. Y.

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McLennan-Stone Machine Co., Hollidaysburg, Pa.

Stephens-Adamson Mfg. Co., Birmingham, Ala.

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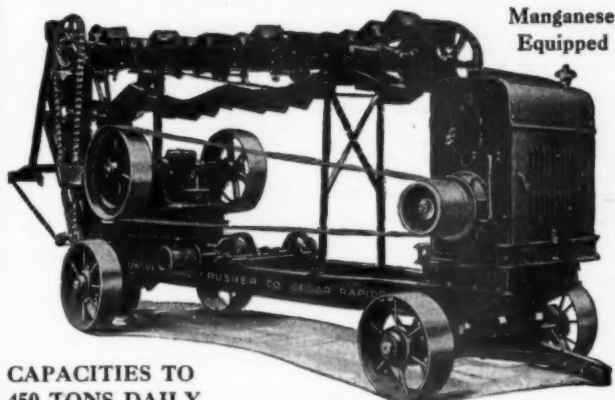
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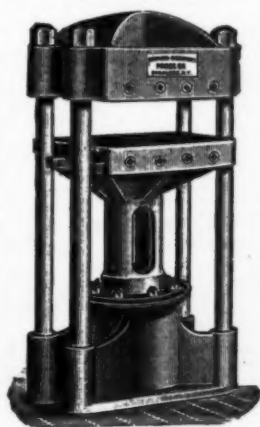
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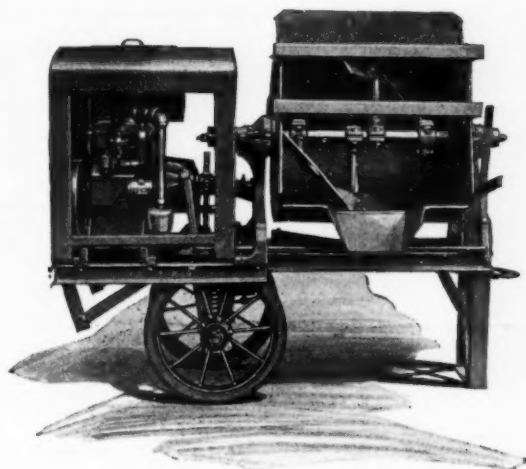
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 Gardner & Howe, Memphis, Tenn.
 Hardaway Contracting Co., Columbus, Ga.
 Harza Engineering Co., Chicago.
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 Main, Inc., Chas. T., Boston, Mass.
 Sirtine & Co., J. E., Greenville, S. C.
 Tucker & Laxton, Charlotte, N. C.
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(Electrical.)

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 Mullergren, Arthur L., Kansas City, Mo.
 Sanderson & Porter, New York, N. Y.
 Stone & Webster, Inc., Boston, Mass.
 Tucker & Laxton, Charlotte, N. C.
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 Byllesby Engineering and Management Corp., Chicago, Ill.
 Cooper & Co., Hugh L., New York, N. Y.
 Ford, Bacon & Davis, Inc., New York.
 Lee, William S., Charlotte, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Mullergren, Arthur L., Kansas City, Mo.
 Sanderson & Porter, New York, N. Y.
 Scofield Engineering Co., Phila., Pa.
 Stone & Webster, Inc., Boston, Mass.
 Tucker & Laxton, Charlotte, N. C.
 White Engineering Corp., J. G., New York.
 White Co., Gilbert C., Durham, N. C.

(Flood Control.)

Floyd & Lechridge, Dallas, Texas.
 Harza Engineering Co., Chicago.

(Forest.)

Lacey & Co., Jas. D., New York, N. Y.

(Gas.)

Byllesby Engineering and Management Corp., Chicago, Ill.
 Ford, Bacon & Davis, Inc., New York.
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(Geological.)

De Kalb, Courtenay, New York City.
 Froehling & Robertson, Richmond, Va.
 Harrison, William Henry, Washington, D. C.
 Wadleigh & Bailey, Washington, D. C.

(Harbor Improvements.)

Billingsley, James W., New Orleans, La.
 Engineering Service Corp., Houston, Texas.
 Fay, Spofford & Thorndike, Boston, Mass.

(Heating.)

Battey & Kipp, Inc., Chicago, Ill.
 Biggs Eng. Co., W. E., Knoxville, Tenn.
 Wiley & Wilson, Lynchburg, Va.

(Hydraulic.)

Alpaugh & Sons, Chas. W., Manassas, Va.
 Barrows, H. K., Boston, Mass.
 Floyd & Lechridge, Dallas, Texas.
 Fuller & McClintock, New York, N. Y.
 Harza Engineering Co., Chicago.
 Main, Inc., Chas. T., Boston, Mass.

(Hydro-electric.)

Alpaugh & Sons, Chas. W., Manassas, Va.
 Barrows, H. K., Boston, Mass.
 Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.

(Public Service Properties.)

Byllesby Engineering and Management Corp., Chicago, Ill.
 Cooper & Co., Hugh L., New York, N. Y.
 Ford, Bacon & Davis, Inc., New York.
 Fuller & McClintock, New York, N. Y.
 Harza Engineering Co., Chicago.
 Lee, William S., Charlotte, N. C.
 Ludlow Engineers, Winston-Salem, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Meigs & Meigs, Charlotte, N. C.
 Platt, William M., Durham, N. C.
 Sanderson & Porter, New York, N. Y.
 Scofield Engineering Co., Phila., Pa.
 Sirtine & Co., J. E., Greenville, S. C.
 Tucker & Laxton, Charlotte, N. C.
 White Engineering Corp., J. G., New York.

(Ice and Refrigerating.)

Engineering Service Corp., Houston, Texas.

(Ophuls & Hill, Inc., New York, N. Y.)**(Industrial Plants.)**

Barlow & Co., W. S., Reading, Pa.
 Battey & Kipp, Inc., Chicago, Ill.
 Biggs Eng. Co., W. E., Knoxville, Tenn.
 Billingsley, James W., New Orleans, La.
 Construction, Inc., Charleston, S. C.
 Consoer, Older & Quinlan, Inc., Chicago.
 Converse & Co., J. B., Mobile, Ala.
 Fay, Spofford & Thorndike, Boston, Mass.
 Gardner & Howe, Memphis, Tenn.

(Greiner & Co., J. E., Baltimore, Md.)

Harty, Charles H., New York City.
 Hills Co., George B., Jacksonville, Fla.
 Lockwood Greene Engrs., Inc., New York City.
 MacLewee & Crandall, Inc., Cambridge, Mass.
 Main, Inc., Chas. T., Boston, Mass.
 Mees & Mees, Charlotte, N. C.
 Morgan Constr. Co., Worcester, Mass.
 Mullergren, Arthur L., Kansas City, Mo.
 Ophuls & Hill, Inc., New York, N. Y.
 Prescher & Co., Inc., G. Lloyd, Atlanta.
 Sanderson & Porter, New York, N. Y.
 Scofield Engineering Co., Phila., Pa.
 Simmons, Inc. & Associates, B. Stanley, Washington, D. C.
 Sirtine & Co., J. E., Greenville, S. C.
 Smith, Elroy G., Augusta, Ga.
 Stone & Webster, Inc., Boston, Mass.
 Turner, C. A. P., Minneapolis, Minn.
 Widmer Engineering Co., St. Louis, Mo.
 Williamson, Lee H., Charlottesville, Va.

(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.
 Harty, Charles H., New York City.
 Lockwood Greene Engrs., Inc., New York City.
 Wadleigh & Bailey, Washington, D. C.

(Inspection and Tests.)

Barrow-Aggs Laboratories, Memphis, Tenn.
 Conard & Busby, Burlington, N. J.
 Dow & Smith, New York, N. Y.
 Flood & Co., Walter H., Chicago, Ill.
 Froehling & Robertson, Inc., Richmond, Va.
 Hunt Co., Robert W., Chicago, Ill.
 Picard Laboratories, Birmingham, Ala.
 Pittsburgh Testing Laboratories, Pittsburgh, Pa.
 Southwestern Laboratories, Ft. Worth, Texas.

(Landscapes.)

Draper, E. S., Charlotte, N. C.
 Kirby & Co., Raleigh, N. C.
 McCrady Co., John, Charleston, S. C.

(Lighting.)

Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Ford, Bacon & Davis, Inc., New York.
 General Electric Vapor Lamp Co., Hoboken, N. J.
 Wiley & Wilson, Lynchburg, Va.

(Mechanical.)

Battey & Kipp, Inc., Chicago, Ill.
 Charlton & Davis, Ft. Lauderdale, Fla.
 Engineering Service Corp., Houston, Texas.
 Invieta Engineering Co., Birmingham, Ala.
 Lee, William S., Charlotte, N. C.
 Lockwood Greene Engrs., Inc., New York City.
 Main, Inc., Chas. T., Boston, Mass.
 Mees & Mees, Charlotte, N. C.
 Meigs, Bassett & Slaughter, Phila., Pa.
 Sanderson & Porter, New York, N. Y.
 Wiley & Wilson, Lynchburg, Va.

(Metal Protection.)

Dixie Electro Plating Co., Houston, Tex.

(Mining. See Engineers, Geological.)**(Municipal.)**

Billingsley, James W., New Orleans, La.
 Consoer, Older & Quinlan, Inc., Chicago.
 Dow & Smith, New York, N. Y.
 Harrub Engr. Co., C. N., Nashville, Tenn.
 Hills Co., George B., Jacksonville, Fla.
 Howerton Engineering Co., Asheville, N. C.
 Knowles, Inc., Morris, Pittsburgh, Pa.
 Ludlow Engineers, Winston-Salem, N. C.
 McCrady Co., The J. B., Atlanta, Ga.
 Spoon & Lewis, Greensboro, N. C.
 White Co., Gilbert C., Durham, N. C.

(Paving and Roads.)

Billingsley, James W., New Orleans, La.
 Dow & Smith, New York, N. Y.
 Freeland, Roberts & Co., Nashville, Tenn.
 Harrub Engr. Co., C. N., Nashville, Tenn.
 Howerton Engineering Co., Asheville, N. C.
 Ludlow Engineers, Winston-Salem, N. C.
 Platt, William M., Durham, N. C.
 Spoon & Lewis, Greensboro, N. C.
 White Co., Gilbert C., Durham, N. C.

(Production.)

Scofield Engr. Co., Phila., Pa.

(Public Service Properties.)

Byllesby Engineering and Management Corp., Chicago, Ill.
 Cooper & Co., Hugh L., New York, N. Y.
 Ford, Bacon & Davis, Inc., New York.
 Fuller & McClintock, New York, N. Y.
 Harza Engineering Co., Chicago.
 Lee, William S., Charlotte, N. C.
 Ludlow Engineers, Winston-Salem, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Sanderson & Porter, New York, N. Y.
 Scofield Engineering Co., Phila., Pa.
 Stone & Webster, Inc., Boston, Mass.
 White Engineering Corp., J. G., New York.

(Railroad.)

Mees & Mees, Charlotte, N. C.

(Reinforced Concrete Bridges, Buildings, etc.)

Atlantic Bridge Co., Greensboro, N. C.
 Battey & Kipp, Inc., Chicago, Ill.
 Fay, Spofford & Thorndike, Boston, Mass.
 Freeland, Roberts & Co., Nashville, Tenn.
 Gardner & Howe, Memphis, Tenn.
 Greiner & Co., J. E., Baltimore, Md.
 Lockwood Greene Engrs., Inc., New York City.
 Main, Inc., Chas. T., Boston, Mass.
 Steel & Leiby, Knoxville, Tenn.
 Tucker & Laxton, Charlotte, N. C.
 Turner, C. A. P., Minneapolis, Minn.
 Wheeler, Walter H., Minneapolis, Minn.

(Research and Development.)

Invieta Engineering Co., Birmingham, Ala.

(Sanitary.)

Harza Engineering Co., Chicago.

(Sewage Disposal Plants.)

Fuller & McClintock, New York, N. Y.
 Kaustine Co., Inc., Perry, N. Y.
 Ludlow Engineers, Winston-Salem, N. C.
 McCrady Co., The J. B., Atlanta, Ga.
 Mees & Mees, Charlotte, N. C.
 Platt, William M., Durham, N. C.
 Wiedeman and Singleton, Inc., Atlanta.

(Sewerage and Waterworks.)

Barrows, H. K., Boston, Mass.
 Conard & Busby, Burlington, N. J.
 Consoer, Older & Quinlan, Inc., Chicago.
 Ford, Bacon & Davis, Inc., New York.
 Fuller & McClintock, New York, N. Y.
 Harza Engineering Co., Columbus, Ga.
 Harrub Engr. Co., C. N., Nashville, Tenn.
 Hills Co., George B., Jacksonville, Fla.
 Howerton Engineering Co., Asheville, N. C.
 Knowles, Inc., Morris, Pittsburgh, Pa.
 Ludlow Engineers, Winston-Salem, N. C.
 Mees & Mees, Charlotte, N. C.
 Platt, William M., Durham, N. C.
 Sanderson & Porter, New York, N. Y.
 Spoon & Lewis, Greensboro, N. C.
 Tucker & Laxton, Charlotte, N. C.
 White Co., Gilbert C., Durham, N. C.
 White Engineering Corp., J. G., New York.
 Wiedeman & Singleton, Inc., Atlanta, Ga.
 Williamson, Lee H., Charlottesville, Va.

(Structural.)

Freeland, Roberts & Co., Nashville, Tenn.
 Hedrick, Inc., Ira G., Hot Springs Nat'l. Park, Ark.
 Hills Company, Geo. B., Jacksonville, Fla.
 Lockwood Greene Engrs., Inc., New York City.
 Simmons, Inc. & Associates, B. Stanley, Washington, D. C.
 Turner, C. A. P., Minneapolis, Minn.
 Virginia Bridge & Iron Co., Roanoke, Va.

(Textile Mills.)

Lockwood Greene Engrs., Inc., New York City.

(Transmission Lines.)

Hoosier Engineering Co., Chicago, Ill.

(Ventilating and Heating.)

Biggs Eng. Co., W. E., Knoxville, Tenn.
 Wiley & Wilson, Lynchburg, Va.

(Water Supply.)

Floyd & Lechridge, Dallas, Texas.

(Engines (Compressed Air.)

Dake Engine Co., Grand Haven, Mich.

(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.

(Gas and Gasoline.)

Light Mfg. & Fdry. Co., Pittsboro, Pa.
 Norw Engine Co., Lansing, Mich.
 Sterling Engine Co., Buffalo, N. Y.
 Wisconsin Motors Co., Milwaukee, Wis.

(Gas and Oil.)

Chicago Pneumatic Tool Co., New York.

(Hoisting.)

Clyde Iron Works Sales Co., Duluth, Minn.
 Mundy Hoisting Engine Co., J. S., Newark, N. J.

(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

(Oil.)

Ingersoll-Rand Co., New York, N. Y.
 Continental Oil Co., Birmingham, Ala.

(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Cole Mfg. Co., R. D., Newnan, Ga.
 Leffel & Co., The James, Springfield, O.
 Lombard Iron Works & Supply Co., Augusta, Ga.
 Morris Machine Works, Baldwinville, N. Y.
 Schofield's Sons Co., J. S., Macon, Ga.

(Envelopes.)

Young & Seldon Co., Baltimore, Md.

(ESTIMATORS (Building & Construction.)

Spring, Charles Herbert, Greensboro, N. C.

(EXCAVATING MACHINERY.)

Bay City Shovels, Inc., Bay City, Mich.
 Buckeye Traction Ditcher Co., Findlay, O.
 Bucyrus-Erie Co., Erie, Penna.
 Clyde Iron Works Sales Co., Duluth, Minn.
 Harnischfeger Corp., Milwaukee, Wis.
 Hayward Co., The New York, N. Y.
 Industrial Brownhoist Corp., Cleveland.
 Monaghan Mfg. Corp., Chicago, Ill.
 National Equipment Corp. (Kochring, Insley, Parsons), Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Owen Bucket Co., The Cleveland, Ohio.
 Thew Shovel Co., The Lorain, Ohio.
 Universal Power Shovel Co., Milwaukee, Wis.

(EXCAVATORS (Clamshell and Orange Peel.)

Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., Lorain, Ohio.

(Dragline. See Dragline Excavators.)**(Trench.)**

Barber-Greene Co., Aurora, Ill.
 Bay City Shovels, Inc., Bay City, Mich.
 Buckeye Traction Ditcher Co., Findlay, O.
 Bucyrus-Erie Co., Erie, Penna.
 Harnischfeger Corp., Milwaukee, Wis.
 Hayward Co., The New York, N. Y.
 Monaghan Mfg. Corp., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Universal Power Shovel Co., Milwaukee, Wis.

EXHAUST FANS (See Blowers and Exhaust Fans.)**Systems (See Blowers and Exhaust Fans.)****EXPANSION JOINTS (Road and Street.)**

Serviced Premoulded Products, Inc., Chicago, Ill.

EXPLOSIVES.

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

Hercules Powder Co., Inc., Wilmington, Del.

FACTORY Management Systems.

Ernst & Ernst, New York, N. Y.

FANS, Exhaust (See Blowers and Exhaust Fans.)**FEED-WATER HEATERS and Purifiers.**

American Water Softener Co., Phila., Pa.

FENCE POSTS (Creosoted.)

Ayer & Lord Tie Co., Chicago, Ill.

FENCING Entrance Gates (Iron, Steel and Wire.)

American Steel and Wire Co., Balto., Md.

Anchor Post Fence Co., Baltimore, Md.

Cyclone Fence Co., Waukegan, Ill.

Page Fence Association, Chicago, Ill.

Stewart Iron Works Co., Cincinnati, O.

(Field and Industrial, Wire Woven.)

American Steel and Wire Co., Balto., Md.

Anchor Post Fence Co., Baltimore, Md.

Cyclone Fence Co., Waukegan, Ill.

Gulf States Steel Co., Birmingham, Ala.

Page Fence Association, Chicago, Ill.

Stewart Iron Works Co., Cincinnati, O.

FERTILIZER MACHINERY.

Raymond Bros., Impact Pulv. Co., Chicago.

FILTER (For Domestic and Industrial Purposes.)

American Water Softener Co., Phila., Pa.

International Filter Co., Chicago, Ill.

Rees, S. P., Atlanta.

Roberts Filter Mfg. Co., Darby (Phila.), Pa.

Scalfe & Sons Co., Wm. B., Oakmont, Pa.

FINANCING.

Akers, William, Atlanta, Ga.

Electric Bond & Share Co., New York.

Equitable Trust Co., New York City.

Garraway & Co., S. G., Chicago.

Gay & Co., W. O., New York, N. Y.

Marx & Co., Birmingham, Ala.

FIRE CLAY.

Alabama Clay Products Co., Birmingham.

Cambridge Clay Products Co., Blackfork, O.

FIRE EXTINGUISHERS.

Myers & Bro. Co., The F. E., Ashland, O.

FIREPROOF Building Material.

Bannon Pipe Co., Louisville, Ky.

Robertson Co., H. H., Pittsburgh.

Doors and Shutters.

Kinner Mfg. Co., The, Columbus, Ohio.

Mahon Co., R. C., Detroit, Mich.

Moeschl-Edwards Corr. Co., Cincinnati, O.

Richards-Wilcox Mfg. Co., Aurora, Ill.

FIREPROOFING MATERIAL and Construction.

Peelle Co., The, Brooklyn, N. Y.

FITTINGS (Wire Rope.)

Leschen & Sons Rope Co., A., St. Louis.

FLANGES (Iron and Steel.)

Amer. Cast Iron Pipe Co., Birmingham.

Dart Mfg. Co., E. M., Providence, R. I.

National Cast Iron Pipe Co., Birmingham, Ala.
Taylor Forge & Pipe Wks., Chicago, Ill.
U. S. Pipe & Foundry Co., Burlington, N. J.
Vogt Mch. Co., Henry, Louisville, Ky.

—and Flanged Fittings.
Grinnell Co., Inc., Providence, R. I.

FLOOR. (Asphalt Plank.)
Serviced, Premoulded Products, Inc., Chicago, Ill.

—(Composition.)
Johns-Manville Corp., New York, N. Y.

—(Cork Composition.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Hardwood, Maple, Oak.)
Kirby Lumber Co., Houston, Tex.
Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Northern Hard Maple.)
Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)
Blaw-Knox Co., Pittsburgh, Pa.

—(Rubber and Cork.)
Congoleum-Nairn, Inc., Kearny, N. J.

—Covering.
Congoleum-Nairn, Inc., Kearny, N. J.

—Hardener (Concrete.)
Sonneborn Sons, Inc., L. New York.

—Plates and Stair Treads.
American Pressed Steel Co., Phila., Pa.

—Central Iron & Steel Co., Harrisburg, Pa.

—Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Steel (For Concrete Culverts, Roads, Streets.)
Blaw-Knox Co., Pittsburgh, Pa.

—(Tile.)
Hood Co., B. Millin, Daisy, Tenn.

—Wax.
Congoleum-Nairn, Inc., Kearny, N. J.

—(Wood) Preservative.
Standard Co., Phila., Pa.

FLUSH-TANK SIPHONS.
Kaustins Co., Inc., Perry, N. Y.

—Pattis Flush-Tank Co., New York, N. Y.

FLYER PRESSERS.
Southern Spindle & Flyer Co., Charlotte, N. C.

FLYERS.
Southern Spindle & Flyer Co., Charlotte, N. C.

FORGINGS (Drop.)
Vogt Mch. Co., Henry, Louisville, Ky.

FORMS, Steel (For Concrete, Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)
Blaw-Knox Co., Pittsburgh, Pa.

FOUNDATION MASONRY.
Calligan Co., A. H., Richmond, Va.

FOUNDRIES and Machine Shops.
Deemer Steel Casting Co., New Castle, Del.

General Machine Works, York, Pa.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

Goldens' Fdry. & Mch. Co., Columbus, Ga.
Lombard Iron Works & Supply Co., Augusta, Ga.

Moccasin Bushing Co., Chattanooga, Tenn.

FOUNDRY Equipment and Supplies.
Chain Belt Co., Milwaukee, Wis.

Hill & Griffith Co., The, Cincinnati, O.
Whiting Corp., Harvey, Ill.

—Facing (Talc and Soapstone.)
Hill & Griffith Co., The, Cincinnati, O.

FUMIGATORS (Fruit, Nuts, Nursery Stock, etc.)
Union Tank & Pipe Co., Los Angeles, Cal.

FURNACES (Industrial.)
Combustion Engr., Corp., New York City.

—(Water-Cooled.)
Combustion Engr. Corp., New York City.

Fuller Lehigh Co., Fullerton, Pa.

GALVANIZED Products.
Birmingham Galvanizing Co., Birmingham, Ala.

Cattle & Bros., Jos. P., Philadelphia, Pa.

—Steel and Iron.
American Rolling Mill Co., Middletown, O.

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Granite City Steel Co., Granite City, Ill.
Republic Steel Corp., Youngstown, Ohio.

GALVANIZING (Cadmium Plating.)
Birmingham Galvanizing Co., Birmingham, Ala.

—(Hot Dip.)
Bessemer Galvanizing Works, Birmingham, Ala.

Birmingham Galvanizing Co., Birmingham, Ala.

Cattle & Bros., Jos. P., Philadelphia, Pa.

Newport News Shipbuilding & Drydock Co., Newport News, Va.

GARAGES (Metal.)
Maryland Metal Building Co., Balto., Md.

GARBAGE DISPOSAL SYSTEMS
Seacell Corp., New York, N. Y.

GAS HOLDERS.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Works, Atlanta, Ga.

—Producers.
Gas-O-Flame Stove Works, Port Deposit, Md.

Morgan Construction Co., Worcester, Mass.

Wood & Co., R. D., Philadelphia, Pa.

GASOLINE and KEROSENE.
Gulf Refining Co., Pittsburgh, Pa.

GASOLINE SHOVELS (See Shovels.)

GATES (Automatic Drainage.)
Armed Culvert Mfr. Assn., Middletown, O.

Dirix Culvert & Metal Co., Atlanta, Ga.

Dirix Culvert Mfg. Co., Little Rock, Ark.

Louisiana Corr. Culvert Co., Baton Rouge, La.

Tenn. Metal Culvert Co., Nashville, Tenn.

Western Metal Mfg. Co., Houston, Texas.

GAUGE GLASSES.
Jenkins Bros., New York, N. Y.

GEARS.
DeLaval Steam Turbine Co., Trenton, N. J.

Farle Gear & Machine Co., Phila., Pa.

General Electric Co., Schenectady, N. Y.

—(Worm Reduction.)
DeLaval Steam Turbine Co., Trenton, N. J.

GENERATORS, MOTORS (New.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

General Electric Co., Schenectady, N. Y.

Howell Electric Motors Co., Howell, Mich.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

Wisconsin Motor Co., Milwaukee, Wis.

—(Used.)
Belyea Co., Inc., New York City.

Electrical Equip. Co., Raleigh, N. C.

Gregory Electric Co., Chicago.

Nashville Ind. Corp., Old Hickory, Tenn.

Nussebaum & Co., V. M., Ft. Wayne, Ind.

O'Brien Machinery Co., Phila., Pa.

Randle Machinery Co., The, Cincinnati, O.

Stewart Elec. Co., John A., Cincinnati.

GEOLOGISTS. (See Engineers, Geological.)

GLASS (Art.)
Binswanger & Co., Memphis, Tenn.

Hires Turner Glass Co., Philadelphia, Pa.

—(Plate.)
Binswanger & Co., Inc., Memphis, Tenn.

Blue Ridge Glass Corp., Kingsport, Tenn.

Hires Turner Glass Co., Philadelphia, Pa.

—(Window.)
Blue Ridge Glass Corp., Kingsport, Tenn.

Hires Turner Glass Co., Phila., Pa.

—(Wire.)
Blue Ridge Glass Corp., Kingsport, Tenn.

Hires Turner Glass Co., Phila., Pa.

GRADERS (Elevating.)
Adams Co., J. D., Indianapolis, Ind.

Caterpillar Tractor Co., San Leandro, Calif.

—(Leaning Wheel Road.)
Adams Co., J. D., Indianapolis, Ind.

—(One Man Motor.)
Adams Co., J. D., Indianapolis, Ind.

Riddell Co., W. A., Bucyrus, Ohio.

GRAPHITE.
Dixon Crucible Co., Jos., Jersey City, N. J.

GRATES and Grate Bars.
Schofield's Sons Co., J. S., Mason, Ga.

Vogt Machine Co., Henry, Louisville, Ky.

GRATING (Area, Flooring, Sidewalk.)

Bates Steel Corp., Walter, Gray, Ind.

Blaw-Knox Co., Pittsburgh, Pa.

Hendrick Mfg. Co., Carbondale, Pa.

Irring Iron Works, Long Is. City, N. Y.

Karlow Steel Flooring Co., Jersey City, N. J.

GRAVEL (Roofing and Road.)
American Limestone Co., Knoxville, Tenn.

Arundel Corp., The, Baltimore, Md.

Borley & Co., W. W., Roanoke, Va.

Friend & Co., Inc., Petersburg, Va.

GREASE CUPS.
Lunkenheimer Co., The, Cincinnati, O.

GRILLES (Brass, Bronze, Steel, etc.)
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

GRINDERS (Cylinder.)
Hutto Engineering Co., Detroit, Mich.

—(Electric.)
Chicago Pneumatic Tool Co., New York.

—(Gypsum, Limestone, etc.)
Raymond Bros. Impact Pulv. Co., Chicago.

GRINDING MACHINERY (Flexible Shaft.)
Hutto Engineering Co., Detroit, Mich.

Strand & Co., N. A., Chicago, Ill.

—Wheels.
Carborundum Co., Niagara Falls, N. Y.

GUARD RAIL (Road.)
National Traffic Guard Co., Atlanta.

GUNITE CONSTRUCTION.
Cement-Gun Co., Inc., Allentown, Pa.

Cement Gun Construction Co., Chicago.

Gunite Cone & Constr. Co., Kansas City.

Gunite Const. Co., New York City.

Rust Engineering Co., Birmingham, Ala.

GUNPOWDER.
De Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

Hercules Powder Co., Inc., Wilmington, Del.

GUNS (Hydraulic.)
Georgia Iron Works, Augusta, Ga.

HANGARS (Airplane.)
Blaw-Knox Co., Pittsburgh, Pa.

Braden Steel Corp., Tulsa, Okla.

Ingalls Iron Works, Birmingham, Ala.

Maryland Metal Bldg. Co., Balto., Md.

HANGERS (Door, All Kinds.)
Richards-Wilcox Mfg. Co., Aurora, Ill.

—(Line Shaft.)
American Pulley Co., Philadelphia, Pa.

Wood's Sons Co., T. E., Chambersburg, Pa.

HARBOR IMPROVEMENTS.
Arundel Corp., Baltimore, Md.

Atlantic Gulf & Pacific Co., New York.

HARDWARE (Door.)
Richards-Wilcox Mfg. Co., Aurora, Ill.

HEATERS (Asphalt.)
Hanherst Co., Jos., Cincinnati, O.

HEATING Apparatus (Engineers and Contractors.)
Grinnell Co., Inc., Providence, R. I.

Skinner Bros. Mfg. Co., St. Louis, Mo.

—Systems.
Clarage Fan Co., Kalamazoo, Mich.

Skinner Bros. Mfg. Co., St. Louis, Mo.

HOISTING MACHINERY.
Clyde Iron Works Sales Co., Duluth, Minn.

HOISTS (Air Portable.)
Ingersoll-Rand Co., New York, N. Y.

Sullivan Machinery Co., Chicago, Ill.

—(Chain.)
Harrington Co., The, Philadelphia, Pa.

—(Electric.)
Clyde Iron Works Sales Co., Duluth, Minn.

Harnischfeger Corp., Milwaukee, Wis.

Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.

Mundy Hoisting Engine Co., J. S., Newark, N. J.

Novo Engine Co., Lansing, Mich.

O. K. Clutch & Mch. Co., Columbia, Pa.

Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Gasoline.)
Clyde Iron Works Sales Co., Duluth, Minn.

Dake Engine Co., Grand Haven, Mich.

Mundy Hoisting Engine Co., J. S., Newark, N. J.

National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.

Novo Engine Co., Lansing, Mich.

O. K. Clutch & Mch. Co., Columbia, Pa.

Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Hand Power.)
O. K. Clutch & Mch. Co., Columbia, Pa.

—(Steam.)
Clyde Iron Works Sales Co., Duluth, Minn.

Dake Engine Co., Grand Haven, Mich.

Mundy Hoisting Engine Co., J. S., Newark, N. J.

Street Bros. Mch. Wks., Chattanooga, Tenn.

HOOPS, Bands, etc. (Galvanized.)
Connors Steel Co., Birmingham, Ala.

HOPPERS (Aggregate, Measuring and Weighing.)
Blaw-Knox Co., Pittsburgh, Pa.

HOSE (Rubber.)
Republic Rubber Co., Youngstown, Ohio.

HOTELS.
Helsa Hotel Systems, St. Louis, Mo.

Murphy's Hotel, Richmond, Va.

Rice Hotel, Houston, Texas.

Southern Hotel, The, Baltimore, Md.

HOUSE MOVING.
Eichleay, Jr. Co., John, Pittsburgh.

HULLS (Steel.)
American Steel Dredge Co., Fort Wayne, Ind.

HUMIDIFYING AND DRYING EQUIPMENT.
Grinnell Co., Inc., Providence, R. I.

Skinner Bros. Mfg. Co., St. Louis, Mo.

HYDRANTS (Fire.)
Ludlow Valve Mfg. Co., The, Troy, N. Y.

Myers & Bro. Co., The, F. E., Ashland, O.

Vogt Brothers Mfg. Co., Louisville, Ky.

Wood & Co., R. D., Philadelphia, Pa.

HYDRO - ELECTRIC POWER COMPANIES (Offering Industrial and Commercial Opportunities.)
Alabama Power Co., Birmingham, Ala.

Central Power & Light Co., San Antonio.

Georgia Power Co., Atlanta, Ga.

Texas Power & Light Co., Dallas, Texas.

ICE and Refrigerating Machinery and Supplies.
Ingersoll-Rand Co., New York, N. Y.

Vogt Mch. Co., Henry, Louisville, Ky.

INCINERATORS.
Duplex Hanger Co., Cleveland, Ohio.

INCORPORATORS.
Corporation Service Co., Wilmington, Del.

Delaware Registration Trust Co., Wilmington, Del.

INJECTORS.
Jenkins Bros., New York, N. Y.

Randle Machinery Co., The, Cincinnati, O.

INSULATING MATERIALS.
General Electric Co., Schenectady, N. Y.

Johns-Manville Corp., New York, N. Y.

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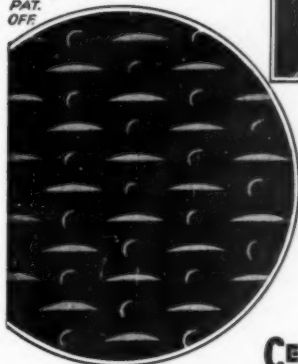
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—(Tubular, Steel.)

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Fairbanks, Morse & Co., Chicago, Ill.
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.
Keystone Pump & Drill Co., Beaver Falls, Pa.

Luitwieler Pumping Engine Co., Rochester, N. Y.

Myers & Bro. Co., The F. E., Ashland, Ohio.

National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.

Platt Iron Works, Dayton, Ohio.

Union Steam Pump Co., Battle Creek, Mich.

Viking Pump Co., Cedar Falls, Iowa.

Virginia Mch. & Well Co., Richmond, Va.

PUMPS (Air.)

Manistee Iron Works Co., Manistee, Mich.

—(Air Lift.)

Ingersoll-Rand Co., New York, N. Y.

Sullivan Machinery Co., Chicago, Ill.

—(Boiler Feed.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

DeLaval Steam Turbine Co., Trenton, N. J.

Erie Pump & Engine Wks., Medina, N. Y.

Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.

Manistee Iron Works Co., Manistee, Mich.

Myers & Bro. Co., The F. E., Ashland, O.

—(Centrifugal.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

American Well Works, Aurora, Ill.

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

DeLaval Steam Turbine Co., Trenton, N. J.

Emerson Pump & Valve Co., Alexandria, Va.

Erie Pump & Engine Wks., Medina, N. Y.

Fairbanks, Morse & Co., Chicago, Ill.

Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.

Jaeger Machine Co., Columbus, Ohio.

Layne & Bowler, Inc., Memphis, Tenn.

Manistee Iron Works Co., Manistee, Mich.

Morris Machine Wks., Baldwinville, N. Y.

Novo Engine Co., Lansing, Mich.

Union Steam Pump Co., Battle Creek, Mich.

—(Contractors.)

Emerson Pump & Valve Co., Alexandria, Va.

Erie Pump & Engine Wks., Medina, N. Y.

Novo Engine Co., Lansing, Mich.

—(Deep Well.)

American Well Works, Aurora, Ill.

Cook, Inc., A. D., Lawrenceburg, Ind.

Keystone Pump & Drill Co., Beaver Falls, Pa.

Layne & Bowler, Inc., Memphis, Tenn.

Luitwieler Pumping Engine Co., Rochester, N. Y.

Novo Engine Co., Lansing, Mich.

—(Diaphragm.)

Novo Engine Co., Lansing, Mich.

—(Hydraulic.)

Dunning & Boschart Press Co., Inc., Syracuse, N. Y.

—(Power.)

American Well Works, Aurora, Ill.

Platt Iron Works, Dayton, Ohio.

Sterling Engine Co., Buffalo, N. Y.

—(Pulverized Coal.)

Fuller Lehigh Co., Fullerton, Pa.

—(Rotary.)

Viking Pump Co., Cedar Falls, Iowa.

—(Sand and Dredging.)

Elliot Machine Corp., Baltimore, Md.

Erie Pump & Engine Wks., Medina, N. Y.

Georgia Iron Works, Augusta, Ga.

—(Steam.)

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

Emerson Pump & Valve Co., Alexandria, Va.

Fairbanks, Morse & Co., Chicago, Ill.

Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.

Platt Iron Works, Dayton, Ohio.

Union Steam Pump Co., Battle Creek, Mich.

—(Vacuum.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Chicago Pneumatic Tool Co., New York.

Ingersoll-Rand Co., New York, N. Y.

Sullivan Machinery Co., Chicago, Ill.

—(Water Works.)

American Well Works, Aurora, Ill.

Layne & Bowler, Inc., Memphis, Tenn.

Manistee Iron Works Co., Manistee, Mich.

PUNCHING AND SHEARING MACHINERY.

Beatty Machine & Mfg. Co., Hammond, Ind.

Bliss Co., E. W., Brooklyn, N. Y.

Whitney Metal Tool Co., Rockford, Ill.

RACK RAKES.

Newport News Shipbuilding & Drydock Co., Newport News, Va.

RADIATOR ENCLOSURES.

Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

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Pipe Railing Constr. Co., Long Island City, N. Y.

—and Grilles, Iron and Brass,

(Banks and Offices.)

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Ludlow Saylor Wire Co., The St. Louis, Mo.

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Robinson & Orr, Pittsburgh, Pa.

Whiting Corp., Harvey, Ill.

—Equipment and Supplies (Used.)

Birmingham Rail & Loco. Co., Birmingham.

Equip. Sales & Rentals Co., Pittsburgh.

Levis & Co., Henry, Philadelphia, Pa.

Penn Machinery Co., H. O., New York.

Smith & Co., W. M., Birmingham, Ala.

Southern Iron and Equip. Co., Atlanta.

Zelnicker Supply Co., W. A., St. Louis.

—(Frogs and Switches.)

Bethlehem Steel Co., Bethlehem, Pa.

Frank, M. K., Pittsburgh, Pa.

Koppel Ind. Car & Equip. Co., Keppel, Pa.

Robinson & Orr, Pittsburgh, Pa.

RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)

Atlanta and West Point R. R., Atlanta.

Central of Georgia Rwy., Savannah, Ga.

Missouri - Kansas - Texas Lines, Dallas, Texas.

Missouri-Pacific Lines, St. Louis, Mo.

Model Land Company, Flagler System, St. Augustine, Fla.

Norfolk & Western Railway, Roanoke, Va.

Tennessee Central Railway, Nashville, Tenn.

RAILS (New and Used.)

Birmingham Rail & Locomotive Co., Birmingham, Ala.

Carnegie Steel Co., Pittsburgh, Pa.

Frank, M. K., Pittsburgh, Pa.

Levis & Co., Henry, Philadelphia, Pa.

Perry, Burton, Deane Co., Philadelphia.

Robinson & Orr, Pittsburgh, Pa.

Smith & Co., W. M., Birmingham, Ala.

Southern Iron & Equip. Co., Atlanta, Ga.

Sweet's Steel Co., Williamsport, Pa.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Weller & Co., Birmingham, Ala.

Zelnicker Supply Co., W. A., St. Louis.

RAILWAYS (Industrial.)

Easton Car & Construction Co., Easton, Pa.

Koppel Ind. Car & Equip. Co., Keppel, Pa.

—(Marine.)

Charleston Dry Dock and Machine Co., Charleston, S. C.

RECEPTACLES (Self-Closing, Waste Paper.)

Whitaker Paper Co., Baltimore, Md.

REELS and SPOOLS. (Pressed Metal.)

American Pulley Co., Philadelphia, Pa.

REFRACTORIES.

Harbison-Walker Refractories Co., Pittsburgh.

Taylor Sons Co., Charles, Cincinnati.

REFRIGERATING MACHINERY

(See Ice and Refrigerating Machinery and Supplies.)

REINFORCING for Concrete.

American Steel and Wire Co., Balto., Md.

Carnegie Steel Co., Pittsburgh, Pa.

Connors Steel Co., Birmingham, Ala.

Dietrich Brothers, Baltimore, Md.

Gulf States Steel Co., Birmingham, Ala.

Knoxville Iron Co., Knoxville, Tenn.

Pidgeon-Thomas Iron Co., Memphis, Tenn.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Southern Engineering Co., Charlotte, N. C.

Trucon Steel Co., Youngstown, O.

RESURFACING MATERIALS

(Floor, Roof and Roadways.)

Stonhard Co., Phila., Pa.

RETORTS (Special Process—Riveted or Welded.)

Birge Boiler Works, Akron, Ohio.

RIVER & HARBOR IMPROVEMENTS, (Dredging, Docks, Wharves, etc.)

Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.

Kansas City Bridge Co., Kansas City.

RIVETS.

Russell, Burdell & Ward Bolt & Nut Co., Port Chester, N. Y.

ROAD and Street Machinery.

Acme Road Mchry. Co., Frankfort, N. Y.

Adams Co., J. D., Indianapolis, Ind.

Austin-Western Road Mchry. Co., Chicago.

Blaw-Knox Co., Pittsburgh, Pa.

Buffalo-Springfield Roller Co., Springfield, O.

Caterpillar Tractor Co., San Leandro, Cal.

Erie Machine Shops, Erie, Pa.

Huber Mfg. Co., The, Marion, Ohio.

Universal Crane Co., Lorain, Ohio.

—and Street Material.

Bituminous Earth Road Corp., Raleigh, N. C.

Boxley & Co., W. W., Roanoke, Va.

Kentucky Rock Asphalt Co., Louisville, Ky.

Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.

Trucon Steel Co., Youngstown, O.

Woodstock Slag Corp., Birmingham, Ala.

—Graders and Scrapers.

Acme Road Mchry. Co., Frankfort, N. Y.

Adams Co., J. D., Indianapolis, Ind.

Austin-Western Road Mchry. Co., Chicago.

Caterpillar Tractor Co., San Leandro, Cal.

—Oils and Preservatives.

Gulf Refining Co., Pittsburgh, Pa.

—Reinforcement (Welded Fabric.)

American Steel & Wire Co., Balto., Md.

—Rollers (Steam and Gasoline.)

Acme Road Mchry. Co., Frankfort, N. Y.

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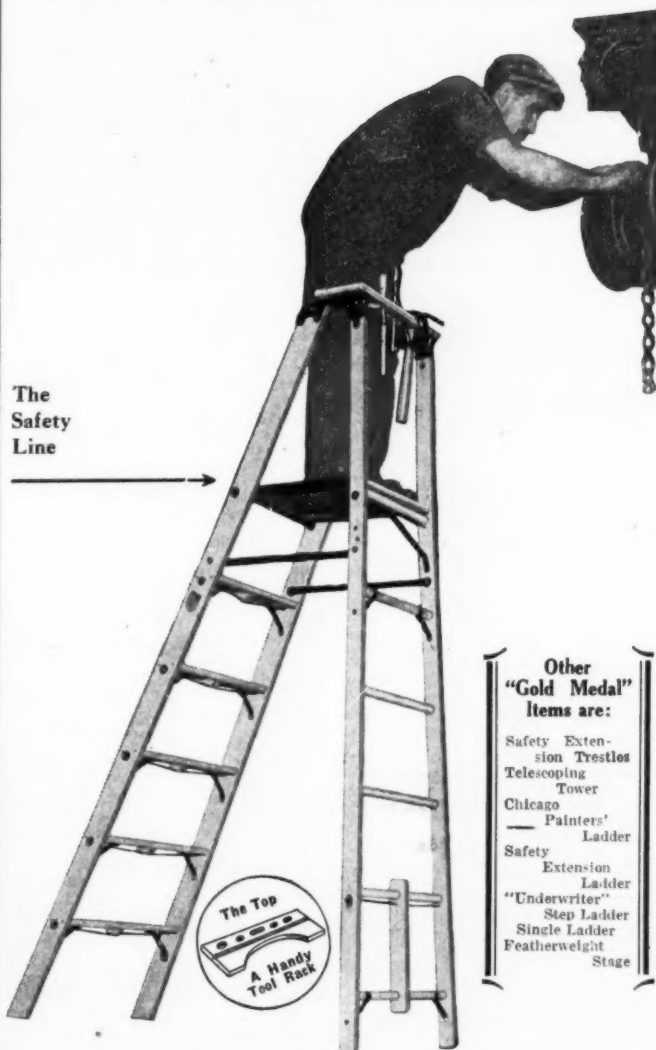
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Bauerman Bros., Chicago, Ill.

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Huntz Sons, M. J., Philadelphia, Pa.
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Smith & Co., W. M., Birmingham, Ala.

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Erdie Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Ludlow Saylor Wire Co., The St. Louis, Mo.
McLennan-Stone Machine Co., Hollidaysburg, Pa.
Mundt & Sons, Charles, Jersey City, N. J.
Stephens-Adams Mfg. Co., Birmingham, Ala.
Universal Crusher Co., Cedar Rapids, Iowa.

SCREW-Machine Products.

Progressive Mfg. Co., Torrington, Conn.

SCREWS (Machine.)

Progressive Mfg. Co., Torrington, Conn.

SEAWALLS.

Shore-Line Builders, Inc., Jacksonville, Fla.

SEPARATORS (Dust.)

Raymond Bros., Impact Pair Co., Chicago.

SEPTIC TANKS.

Kaustine Co., Inc., Perry, N. Y.

SEWAGE Disposal Apparatus.

Kaustine Co., Inc., Perry, N. Y.
Pacific Flush-Tank Co., New York, N. Y.

SEWER Joint Compounds.

Pacific Flush-Tank Co., New York, N. Y.
Servicised Premoulded Products, Inc., Chicago, Ill.

—Pipe (Vitrified.)

Bannon Pipe Co., Louisville, Ky.
Cambria Clay Products Co., Blackfork, O.
Dee Co., Wm. E., Oak Hill, Ohio.
Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.

SEWER PIPE MACHINERY

(Concrete.)
Quinn Wire & Iron Works, Boone, Iowa.

SHADES (Ornet.)

Hough Shade Corp., Chicago, Ill.

SHAFTING.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

—(Cold Rolled.)

Bliss & Laughlin, Inc., Harvey, Ill.

—(Flexible.)

Strand & Co., N. A., Chicago, Ill.

—Material (Tubular.)

National Tube Co., Pittsburgh, Pa.

SHARPENING Stones.

Carborundum Co., Niagara Falls, N. Y.

SHEET Metal Work.

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La.
Skinner Bros. Mfg. Co., St. Louis, Mo.
—Metal Working Machinery.
Bliss Co., E. W., Brooklyn, N. Y.
Whitney Metal Tool Co., Rockford, Ill.
Yoder Co., The, Cleveland, Ohio.
—Steel and Iron.
American Rolling Mill Co., Middletown, O.
American Sheet and Tin Plate Co., Pittsburgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Granite City Steel Co., Granite City, Ill.
Republic Steel Corp., Youngstown, Ohio.
Ryerson & Sons, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, O.

SHEETS (Asbestos.)

Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa.

—(Steel—Asbestos Covered.)

Robertson Co., H. H., Pittsburgh, Pa.

SHELVING (Unit.)

Lupton's Sons Co., David, Phila., Pa.

SHINGLES (Asbestos.)

Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa.

—(Stain.)

Cabot, Inc., Samuel, Boston, Mass.

SHOVELS (Hand.)

American Mfg. Co., Chattanooga, Tenn.

—(Steam, Gas and Electric Power.)

Bucyrus-Erie Co., Erie, Penna.
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
National Equipment Corp. (Keehring, Insley), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.
Universal Power Shovel Co., Milwaukee, Wis.

SHUTTERS (Steel.)

Merchant & Evans Co., Philadelphia, Pa.

Paille Co., The, Brooklyn, N. Y.

—(Steel and Wood Bifolding.)

Kinnear Mfg. Co., The, Columbus, Ohio.

SILICATE OF SODA.

Grasselli Chemical Co., Inc., Birmingham, Ala.

SITES (Manufacturing.)

Alabama Power Co., Birmingham, Ala.

Arkansas Natural Gas Corp., Shreveport, La.

Atlanta and West Point R. R., Atlanta.

Brown & Co., Chattanooga, Tenn.

Central of Georgia Rwy., Savannah, Ga.

Central Power & Light Co., San Antonio.

Galveston City of Galveston, Texas.

Georgia Power Co., Atlanta, Ga.

Industrial Dallas, Inc., Dallas, Texas.

Jacksonville, City of Jacksonville, Florida.

Missouri-Kansas-Texas Lines, Dallas, Texas.

Missouri-Pacific Lines, St. Louis, Mo.

Model Land Company, (Flagler System), St. Augustine, Fla.

Norfolk & Western Railway, Roanoke, Va.

Tennessee Central Railway, Nashville, Tenn.

Texas Power & Light Co., Dallas, Texas.

SKYLIGHTS.

Milnor Steel Co., Milwaukee, Wis.

Robertson Co., H. H., Pittsburgh, Pa.

SLABS (Concrete Floor.)

American Cement Tile Mfg. Co., Pittsburgh, Pa.

—(Concrete Roof.)

American Cement Tile Mfg. Co., Pittsburgh, Pa.

SLAG, For Concrete.

Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.

Woodstock Slag Corp., Birmingham, Ala.

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Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.

Woodstock Slag Corp., Birmingham, Ala.

SLINGS (Chain.)

Woodhouse Chain Works, Trenton, N. J.

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Roebbing's Sons Co., John A., Trenton, N. J.

SLUICE GATES AND APPLIANCES.

Smith Co., S. Morgan, York, Pa.

SNATCH BLOCKS (For Wire and Manila Rope.)

Patterson Co., W. W., Pittsburgh.

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American Mfg. Co., Chattanooga, Tenn.

SPEED REDUCERS.

Baria Gear & Mach. Co., Phila., Pa.

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SPIKES (Railroad, Ship.)

Bethlehem Steel Co., Bethlehem, Pa.

Republic Steel Corp., Youngstown, Ohio.

Sweet's Steel Co., Williamsport, Pa.

SPINNINGS (Metal for Aircraft.)

Benson Brass & Chandler Works, Kansas City, Mo.

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American Steel & Wire Co., Balto., Md.

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Grinnell Co., Inc., Providence, R. I.

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Biggs Boiler Works Co., Akron, Ohio.

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Irving Iron Works Co., Long Is. City, N. Y.

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Young & Seiden Co., Baltimore, Md.

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Bucyrus-Erie Co., Erie, Pa.

Thew Shovel Co., The, Lorain, Ohio.

—Specialties.

Jenkins Bros., New York, N. Y.

Lunkenheimer Co., The, Cincinnati, O.

Mueller Co., Decatur, Ill.

—Traps.

Jenkins Bros., New York, N. Y.

STEEL.

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Gulf States Steel Co., Birmingham, Ala.

Republic Steel Corp., Youngstown, Ohio.

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Bessemer Galvanizing Works, Birmingham.

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Beimont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Carnegie Steel Co., Pittsburgh, Pa.

Carolina Steel & Iron Co., Greensboro, N. C.

Champion Bridge Co., Wilmington, Ohio.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Converse Bridge & Steel Co., Chattanooga, Tenn.

Dietrich Brothers, Baltimore, Md.

Eichley, Jr., Co., John, Pittsburgh.

Erie Steel Constr. Co., Erie, Pa.

Ingalls Iron Works Co., Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

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Air-Tight Steel Tank Co., Pittsburgh, Pa.

Scalf & Sons, Wm. B., Oakmont, Pa.

Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Works, Atlanta, Ga.

Cole Mfg. Co., R. D., Newman, Ga.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Elevated Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Davis & Son, G. M., Palatka, Fla.

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Air-Tight Steel Tank Co., Pittsburgh, Pa.

American Bridge Co., New York, N. Y.

Biggs Boiler Works Co., Akron, Ohio.

Birmingham Tank Co., Birmingham, Ala.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

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Cole Mfg. Co., R. D., Newman, Ga.

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Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Titusville Iron Works Co., Titusville, Pa.

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Davis & Son, G. M., Palatka, Fla.

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TAX SPECIALISTS.

Ernst & Ernst, New York, N. Y.

Harrison, Wm. Henry, Washington, D. C.

Le Baron, Ernest T., Jacksonville, Fla.

TELEPHONE SERVICE.

American Telephone & Telegraph Co.

TERRA COTTA (Ornamental.)

Atlanta Terra Cotta Co., Atlanta, Ga.

TEXTILE CHEMICALS.

Grasselli Chemical Co., Inc., Birmingham, Ala.

TILE (Cement Roofing.)

American Cement Tile Mfg. Co., Pittsburgh, Pa.

—(Cork Composition.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Cork Flooring.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Hollow Building.)

Cambria Clay Products Co., Blackfork, Ohio.

—(Roof.)

Hood Co., B. Mifflin, Daisy, Tenn.

—(Rubber.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Sewer.)

Lee Clay Products Co., Clearfield, Ky.

TIMBER Fittings.

Duplex Hanger Co., Cleveland, Ohio.

—(Crescoted.)

Amer. Crescote Wks., Inc., New Orleans.

Amer. Crescote Wks., Inc., Louisville, Ky.

Carolina Wood Preserving Co., Charleston, S. C.

TIME Recorders.

Kaiser Klock Co., L. E., Baltimore, Md.

TIN AND TERNE PLATES.

American Sheet & Tin Plate Co., Pittsburgh, Pa.

Bethlehem Steel Co., Bethlehem, Pa.

Granite City Steel Co., Granite City, Ill.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

TOBACCO MACHINERY.

Ripley Foundry & Machine Co., Ripley, O.

TOILET TISSUE.

Victoria Paper Mills Co., Fulton, N. Y.

TOOLS (Measuring.)

Lufkin Rule Co., Saginaw, Mich.

—(Woodworking—Portable.)

Electric, Hand.

Wappat, Incorporated, Pittsburgh, Pa.

TORCHES (Blow.)

Wall Mfg. Supply Co., F., Pittsburgh, Pa.

—(Kerosene.)

St. Paul Welding & Mfg. Co., St. Paul, Minn.

TOWERS (Electric Transmission.)

American Bridge Co., New York, N. Y.

Bates Steel Corp., Walter, Gray, Ind.

Bessemer Galvanizing Works, Birmingham, Ala.

Nashville Bridge Co., Nashville, Tenn.

—(Radio.)

Bessemer Galv. Wks., Birmingham, Ala.

—(Steel and Wood.)

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newman, Ga.

TRACK (Portable or Permanent.)

Sweet's Steel Co., Williamsport, Pa.

TRACTORS (Industrial.)

Atlas Car & Mfg. Co., The, Cleveland, O.

Caterpillar Tractor Co., San Leandro, Cal.

Clark Tractor Co., Battle Creek, Mich.

Cleveland Tractor Co., Cleveland, Ohio.

International Harvester Co., of America, Inc., Chicago, Ill.

—(Road.)

Caterpillar Tractor Co., San Leandro, Cal.

Cleveland Tractor Co., Cleveland, Ohio.

—(Attachments (Side Boom).)

W-K-M Co., Inc., Houston, Texas.

TRAILERS (Four Wheel.)

Electric Wheel Co., Quincy, Ill.

—(Heavy Duty.)

Electric Wheel Co., Quincy, Ill.

—(Industrial.)

Easton Car & Construction Co., Easton, Pa.

Electric Wheel Co., Quincy, Ill.

—(Pole.)

Electric Wheel Co., Quincy, Ill.

TRAMWAYS (Aerial Wire Rope.)

American Steel & Wire Co., Balto., Md.

Broderick & Bascom Rope Co., St. Louis.

Leschen & Sons Rope Co., A., St. Louis.

TRANSFORMERS.

General Electric Co., Schenectady, N. Y.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)

Electric Service Co., Cincinnati, Ohio.

TRANSMISSION TOWERS (Galvanized.)

Bates Steel Corp., Walter, Gray, Ind.

Bessemer Galvanizing Works, Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

TRENCH MACHINERY. See

Excavators (Trench.)

TRESTLES (Wooden.)

Patent Scaffolding Co., Chicago, Ill.

TRI-SODIUM PHOSPHATE.

Grasselli Chemical Co., Inc., Birmingham, Ala.

TROLLEY WHEELS (Self Oil-ing.)

Moccasin Bushing Co., Chattanooga, Tenn.

TRUCK CRANES.

Universal Crane Co., Lorain, O.

TRUCKS (Dry Kiln.)

Moore Dry Kiln Co., Jacksonville, Fla.

—(Industrial.)

Atlas Car & Mfg. Co., The, Cleveland, O.

Clark Tractor Co., Battle Creek, Mich.

Lansing Co., Lansing, Mich.

Nutting Truck Co., Chicago, Ill.

Service Caster & Truck Co., Albion, Mich.

—(Motor.)

International Harvester Co., of America, Inc., Chicago, Ill.

—(Platform, Freight, Mill, Factory, etc.)

American Pulley Co., Philadelphia, Pa.

Clark Tractor Co., Battle Creek, Mich.

Electric Wheel Co., Quincy, Ill.

Nutting Truck Co., Chicago, Ill.

Service Caster & Truck Co., Albion, Mich.

Truscon Steel Co., (Pressed Steel Division) Cleveland, Ohio.

—(Steel Shop.)

Angle Steel Stool Co., Plainwell, Mich.

TUBES (Boiler.) See

Boiler Tubes.

TUBING (Metal.)

Boiler Tube Co., of America, Pittsburgh.

—(Seamless Steel.)

National Tube Co., Pittsburgh, Pa.

Tinken Rolling Bearing Co., Canton, O.

TURBINES (Hydraulic.)

Cook, Inc., A. D., Lawrenceburg, Ind.

Davis Foundry & Mach. Works, Home, Ga.

Lefel & Co., The James, Springfield, O.

Smith Co., S. Morgan, York, Pa.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

DeLaval Steam Turbine Co., Trenton, N. J.

General Electric Co., Schenectady, N. Y.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

TURNBUCKLES.

Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

TURNABLES.

American Bridge Co., New York, N. Y.

Easton Car & Construction Co., Easton, Pa.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Portable for Motor Trucks.)

Blaw-Knox Co., Pittsburgh, Pa.

UNIONS.

Dart Mfg. Co., E. M., Providence, R. I.

UNIT HEATERS.

Grinnell Co., Inc., Providence, R. I.

Skinner Bros., Mfg. Co., St. Louis, Mo.

VALVES.

Jenkins Bros., New York, N. Y.

Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkenhelmer Co., The, Cincinnati, Ohio.

Merco Nordstrom Valve Co., San Francisco, Cal.

Mueller Co., Decatur, Ill.

Vogt Brothers Mfg. Co., Louisville, Ky.

Vogt Machine Co., Henry, Louisville, Ky.

Westinghouse Traction Brake Co., Wilmerding, Pa.

—(Acid Proof.)

Lunkenhelmer Co., The, Cincinnati, O.

—(Gate.)

Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkenhelmer Co., The, Cincinnati, Ohio.

Wood & Co., R. D., Philadelphia, Pa.

VENTILATING SYSTEMS.

Skinner Bros. Mfg. Co., St. Louis, Mo.

Swartwout Co., Cleveland, Ohio.

VENTILATORS (Roof.)

Merchant & Evans Co., Philadelphia, Pa.

Milcor Steel Co., Milwaukee, Wis.

Robertson Co., E. H., Pittsburgh, Pa.

—(Rotary.)

Swartwout Co., Cleveland, Ohio.

WALL HANGERS.

Duplex Hanger Co., Cleveland, Ohio.

WARDROBES (Hygienic, School.)

Wilson Corp., The J. G., New York.

WATCHMAN'S PORTABLE CLOCKS.

Davis-Paradis Watchman's Clock Corp., New York, N. Y.

Kaiser Clock Co., L. E., Balto., Md.

WATERPROOFING (For Brick, Concrete, Granite.)

Asphalt Products Co., Syracuse, N. Y.

Foster Co., Benjamin, Philadelphia, Pa.

Serviced Premolded Products, Inc., Chicago, Ill.

Sensborn, Sons, Inc., La., New York.

WATER Purification.

Roberts Filter Mfg. Co., Darby (Phila.), Pa.

Scalf & Sons, Wm. B., Oakmont, Pa.

—(Softening Apparatus (Purifying).)

American Water Softener Co., Phila., Pa.

International Filter Co., Chicago, Ill.

—(Works Supplies and Appliances.)

Amer. Cast Iron Pipe Co., Birmingham.

Cast Iron Pipe Research Assn., Chicago.

Cook, Inc., A. D., Lawrenceburg, Ind.

Gilmorgan Pipe & Fdy. Co., Lynchburg, Va.

Leadite Co., The, Philadelphia, Pa.

Mueller Co., Decatur, Ill.

U. S. Pipe & Foundry Co., Burlington, N. J.

Wood & Co., R. D., Philadelphia, Pa.

WELDING APPARATUS (Electric Arc.)

General Electric Co., Schenectady, N. Y.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Apparatus (Oxy-Acetylene).)

St. Paul Welding & Mfg. Co., St. Paul, Minn.

WELL CONTRACTORS (Oil, Artesian, etc.)

Virginia Machy. & Well Co., Richmond, Va.

WHEELBARROWS.

Lansing Co., Lansing, Mich.

Sterling Wheelbarrow Co., Milwaukee.

WHEELS AND AXLES.

Carnegie Steel Co., Pittsburgh, Pa.

WINCHES.

Saugen Derrick Co., Chicago, Ill.

Schultz & Son, A. L., Chicago, Ill.

WINDOW Frames and Sash (Metal.)

Bayley Co., The William, Springfield, O.

Lupton's Sons Co., David, Phila., Pa.

Truscon Steel Co., Youngstown, O.

WINDOWS. (Steel Basement, Casement.)

Bayley Co., The William, Springfield, O.

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

—(Steel Garage.)

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

—(Steel Pivoted, Screened.)

Bayley Co., William, Springfield, O.

—(Ventilating.)

Bayley Co., The William, Springfield, O.

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

WIRE (All Kinds.)

American Steel & Wire Co., Chicago.

Roebeling's Sons Co., John A., Trenton, N. J.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—(Barbed Wire, etc

Alphabetical Index of Advertisements

A		
A-471.....	94	
Abendroth & Root Mfg. Co.....	113	
Acme Road Machinery Co.....	99	
Acme Steel Engineering Co.....	94	
Adam Electric Co., Frank.....	30	
Adams Co., J. D.....	30	
Airmap Corp. of America.....	28	
Air-Tight Steel Tank Co.....	57	
Akers, William.....	4	
Alabama Clay Products Co.....	4	
Alabama Power Co.....	95	
Albert & Davidson Pipe Corp.....	95	
Albert Pipe Supply Co.....	95	
Alemite Corporation.....	31	
Allen-Sherman-Hoff Co.....	26	
Allis-Chalmers Mfg. Co.....	31	
Alpaugh & Sons, Chas. W.....	26	
Alpha Portland Cement Corp.....	16	
Aluminum Co. of America.....	16	
Ambler Asbestos Shingle & Sheathing Co.....	111	
American Appraisal Co.....	113	
American Bridge Co.....	113	
American Cast Iron Pipe Co.....	113	
American Cement Tile Mfg. Co.....	18	
American Creosote Works.....	19-20	
American Creosoting Co.....	16	
American Elevator & Machine Co.....	16	
American Gas Association.....	16	
American Institute of Steel Construction, Inc.....	16	
American Kron Scale Co.....	102	
American Limestone Co.....	102	
American Manufacturing Co.....	111	
American Pipe Bending Machine Co.....	111	
American Pressed Steel Co.....	111	
American Process Co.....	36	
American Pulley Co.....	36	
American Rolling Mill Co.....	17	
American Sheet & Tin Plate Co.....	17	
American Steel & Wire Co.....	17	
American Steel Dredge Co.....	17	
American Telephone & Telegraph Co.....	17	
American Water Softener Co.....	17	
American Well Works.....	17	
Anchor Post Fence Co.....	18	
Andrews Co., A. H.....	31	
Angle-Blackford Co.....	31	
Angle Steel Stool Co.....	18	
Arkansas Natural Gas Corp.....	113	
Armed Culvert Mfrs. Asso.....	102	
Arundel Corporation.....	115	
Asphalt Products Company.....	115	
Atkins & Co., E. C.....	34	
Atlanta & West Point R. R.....	21	
Atlanta Terra Cotta Co.....	12	
Atlantic Bridge Co.....	18	
Atlantic Creosoting Co.....	18	
Atlantic Gulf & Pacific Co.....	98	
Atlas Car and Manufacturing Co.....	98	
Austin Machinery Corp.....	18	
Austin-Western Road Machy. Co.....	18	
Ayer & Lord Tie Co.....	18	
B		
Babcock & Wilcox Co.....	87	
Baltimore Commercial Bank.....	31	
Bank of Alabama.....	31	
Bank of New York & Trust Co.....	31	
Bannon Pipe Co.....	31	
Barber-Greene Co.....	31	
Barrow-Agee Laboratories.....	30	
Barrows, H. K.....	30	
Barstow & Co., Inc., W. S.....	32	
Battey & Kipp.....	98	
Bay City Shovels, Inc.....	98	
Bayley Co., Wm.....	12	
Beatty Machine & Mfg. Co.....	12	
Belmont Iron Works.....	21	
Belyea Co., Inc.....	21	
Benson Brass & Chandler Works.....	38	
Bessemer Galvanizing Works.....	113	
Bethlehem Steel Co.....	30	
Biggs Boiler Wks. Co.....	31	
Biggs Engineering Co., W. E.....	31	
Billingsley, James W.....	28	
Binswanger & Co.....	28	
Birmingham Boiler & Engr. Co.....	28	
Birmingham Galvanizing Co.....	28	
Birmingham Rail & Loco. Co.....	28	
Birmingham Tank Co.....	28	
Bituminous Earth Road Corp.....	30	
Blair, Algonon.....	30	
Blaw-Knox Co.....	30	
Bliss & Laughlin, Inc.....	9	
Bliss Co., E. W.....	9	
Blus Ridge Glass Co.....	107	
Blystone Mfg. Co.....	107	
C		
Cabot, Inc., Samuel.....	29	
Cabill Co., W. S.....	32	
Caldwell Co., W. E.....	32	
Calligan & Co., A. H.....	113	
Cambria Clay Products Co.....	113	
Cameron Steam Pump Works, A. S. (Ingersoll-Rand Co.).....	113	
Carborundum Co.....	12	
Carnegie Steel Co.....	12	
Carolina Steel & Iron Co.....	12	
Carolina Wood Preserving Co.....	12	
Cast Iron Pipe Research Asso.....	12	
Caterpillar Tractor Co.....	21	
Cattie & Bros., Joseph P.....	21	
Cement-Gun Co.....	24	
Cement Gun Constr. Co.....	24	
Central Foundry Co.....	113	
Central Iron & Steel Co.....	111	
Central of Georgia Rwy.....	95	
Central Pipe & Supply Co.....	95	
Central Power & Light Co.....	95	
Chain Belt Co.....	12	
Champion Bridge Co.....	12	
Charleston Constructors, Inc.....	4	
Charleston Dry Dock & Mch. Co.....	4	
Charlton & Davis.....	30	
Charlotte Leather Belting Co.....	30	
Chase Brass & Copper Co.....	30	
Chase, William J. J.....	29	
Chattanooga Boiler & Tank Co.....	29	
Chicago Bridge & Iron Works.....	29	
Chicago Perforating Co.....	24	
Chicago Pneumatic Tool Co.....	97	
Christian Co., J. R.....	6	
Clark Tractor Co.....	93	
Classified Opportunities.....	93	
Cleveland Tractor Co.....	93	
Clew & Sons, James B.....	29	
Clyde Iron Works Sales Co.....	29	
Cohen, Chas. F.....	19-20	
Cole Mfg. Co., R. D.....	19-20	
Colonial Creosoting Co.....	19-20	
Combustion Engineering Corp.....	31	
Commercial Shearing & Stamping Co.....	31	
Conard & Busby.....	115	
Congoleum-Nairn, Inc.....	30	
Connors Steel Co.....	30	
Consoer, Older & Quinlan.....	31	
Continental Gin Co.....	12	
Converse & Co., J. B.....	12	
Converse Bridge & Steel Co.....	12	
Cook, Inc., A. D.....	30	
Cooper & Co., Hugh L.....	30	
Copper & Brass Research Asso.....	32	
Cornell-Young Co.....	32	
Corporation Service Co.....	95	
Crawbuck Co., John D.....	8	
Crucible Steel Casting Co.....	8	
Crucible Steel Co. of America.....	8	
Curtin-Howe Corp.....	16	
Cutler Mail Chute Co.....	16	
Cyclone Fence Co.....	31	
D		
Dake Engine Co.....	31	
Dame-Wolfe & Co.....	31	
Dart Mfg. Co., E. M.....	31	
Davis & Son, G. M.....	31	
Davis Foundry & Machine Works.....	31	
Davis-Paradis Watchman's Clock Corp.....	34	
Dayton Chemical Co.....	94	
Day Pulverizer Co.....	94	
Dayton Safety Ladder Co.....	94	
Dee Co., Wm. E.....	8	
Deemer Steel Casting Co.....	8	
DeKalb, Courtenay.....	32	
DeLaval Steam Turbine Co.....	32	
Delaware Registration Trust Co.....	32	
Delaware Wood Preserving Co.....	32	
Delta Equipment Co.....	94	
Dempster Equip. Co.....	97	
Detroit Steel Products Co.....	31	
E		
Earle Gear & Machine Co.....	6	
Easton Car & Constr. Co.....	98	
Edelblute Co., T. H.....	31	
Eichleay, Jr., Co., John.....	31	
Electric Bond & Share Co.....	96	
Electric Service Co.....	96	
Electric Storage Battery Co.....	96	
Electric Wheel Co.....	96	
Ellicott Machine Corp.....	97	
Elphinstone, D. C.....	97	
Engineering Service Corp.....	30	
Eppinger & Russell Co.....	18	
Equipment Corp. of America.....	97	
Equipment Sales Co.....	97	
Equitable Trust Co.....	24	
Erie Perforating Co.....	24	
Erie Machine Shops.....	26	
Erie Pump & Engine Works.....	26	
Ernst & Ernst.....	26	
Eternit, Inc.....	26	
Evans Elevator Equaliser Co.....	97	
Excavating Equipment Dealers, Inc.....	97	
F		
Fairbanks, Morse & Co.....	31	
Fay, Spofford & Thorndike.....	31	
Fernholts Machinery Co.....	31	
First & Merchants Nat'l Bank of Richmond.....	31	
Fiske-Carter Const. Co.....	32	
Flood & Co., Walter H.....	32	
Floyd & Leobridge.....	32	
Ford, Bacon & Davis.....	32	
Foster Co., Benjamin.....	97	
Frank, M. K.....	30	
Freeland, Roberts & Co.....	102	
Fried & Co.....	102	
Froehling & Robertson.....	30	
Fuller & McClintock.....	30	
Fuller Lehigh Co.....	30	
G		
Galveston, Texas, City of.....	30	
Galveston Wharf Co.....	30	
Gardner & Howe.....	30	
Garraway & Co., S. G.....	30	
Gay & Co., W. C.....	30	
General Electric Co.....	30	
General Electric Vapor Lamp Co.....	30	
General Machine Works.....	30	
Georgia Creosoting Co.....	19-20	
Georgia Iron Works.....	26	
Georgia Marble Co.....	21	
Georgia Power Co.....	35	
Georgetown, S. C., City of.....	94	
Glamorgan Pipe & Fdry. Co.....	113	
Goldens Foundry & Machine Co.....	31	
Gomes & Co., P. L.....	31	
Granite City Steel Co.....	31	
Grasselli Chemical Co.....	31	
Greenpoint Iron & Pipe Co.....	95	
Gregory Electric Co.....	95	
Greiner & Co., J. E.....	30	
Gridley Constr. Co., Lee A.....	31	
Grinnell Co., Inc.....	31	
Guion, H. P.....	34	
Gulf Refining Co.....	34	
Gulf States Creosoting Co.....	34	
Gulf States Steel Co.....	16	
Gunitite Concrete & Constr. Co.....	16	
Gunitite Construction Co.....	16	
H		
Haas Pattern Co., A. W.....	31	
Hammond Iron Works.....	31	
Hanchett Bond Co.....	87	
Harrison-Walker Refractories Co.....	4	
Hardaway Contracting Co.....	31	
I		
Harnischfeger Corp.....	6-25	
Harrington Co.....	31	
Harrington & King Perforating Co.....	31	
Harrison, Wm. Henry.....	30	
Harrub Engr. Co., C. N.....	30	
Harza Engineering Co.....	30	
Hayward Co.....	98	
Heath Co., J. S.....	30	
Hedges Walsh Weidner Co.....	30	
Hedrick, Ira G.....	30	
Heineken Engineering Corp.....	94	
Heiss Hotel System.....	34	
Hendrick Mfg. Co.....	24	
Hercules Powder Co.....	30	
Herty, Chas. H.....	30	
Hill & Griffith Co.....	30	
Hills Co., George B.....	38	
Hires Turner Glass Co.....	38	
Hitners' Sons, Henry A.....	94	
Hodges & Calhoun.....	94	
Hollowell, Gorham & Co.....	32	
Holt Hardwood Co.....	32	
Honhorst Co., Jos.....	111	
Hood Co., B. Mifflin.....	31	
Hoosier Engineering Co.....	30	
Hornbuckle Contracting Co.....	30	
Hough Shade Corporation.....	30	
Howell Electric Motors Co.....	4	
Howerton Engineering Co.....	30	
Huber Mfg. Co.....	99	
Hudson Pipe & Supply Co.....	96	
Huey, S. E.....	30	
Hunt Co., Robert W.....	32	
Hunt's Sons, M. J.....	32	
Hutto Engineering Co.....	32	
Hyatt Roller Bearing Co.....	32	
J		
Industrial Brownhoist Corp.....	100	
Industrial Dallas, Inc.....	31	
Industrial Electrical Co.....	31	
Industrial Lumber Co.....	31	
Industrial Plants Corp.....	12	
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works).....	103	
International Correspondence School.....	103	
International Filter Co.....	31	
International Harvester Co. of America.....	31	
Inter-State Fdry. & Machine Works.....	30	
Invicta Engineering Co.....	111	
Irvine Iron Works Co.....	111	
I. T. E. Circuit Breaker Co.....	111	
K		
Jacksonville, Fla., City of.....	99	
Jaeger Machine Co.....	99	
Janney, Jr., Jos. A.....	31	
Jenkins Bros.....	31	
Jennings & Co., Floyd.....	31	
Johns-Manville Corp.....	97	
Johnson & Hoehler.....	97	
L		
Kaiser Klock Co., L. E.....	30	
Kansas City Bridge Co.....	32	
Kaustine Co.....	104	
Kentucky Rock Asphalt Co., Inc.....	111	
Kerlow Steel Flooring Co.....	26	
Keystone Pump & Drill Co.....	26	
Kinnear Manufacturing Co.....	30	
Kirby & Co.....	30	
Kirby Lumber Co.....	30	
Knowles, Morris, Inc.....	30	
Knoxville Iron Co.....	30	
Koppel Industrial Car & Equip. Co.....	98	
M		
Lacey Co., James D.....	30	
Lansing Co.....	30	
Law & Co., A. M.....	30	
Layne & Bowler, Inc.....	30	
Leadite Co.....	38-95	
Le Baron, E. T.....	113	
Lee Clay Products Co.....	113	
Lee Trailer & Body Co., Inc.....	30	
Lee, William S.....	30	
Lefell & Co., James.....	30	
Lehigh Portland Cement Co.....	30	
Leschen & Sons Rope Co., A.....	38	
Levis & Co., Henry.....	98	
Light Manufacturing & Foundry Co.....	30	
Lindley, Claude H.....	32	
Lockwood Greene, Engrs., Inc.....	32	
Lombard Iron Works & Supply Co.....	113	
Louisiana Corr. Culvert Co.....	113	
Louisville Cement Co.....	113	

Advt. marked † not in this issue. Classified Opportunities } Page 93 Proposal Advertisements } Pages 90 to 92 Resale Department } Pages 94 to 98 (3-30)

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WHY AN OWEN REDUCES CABLE COSTS

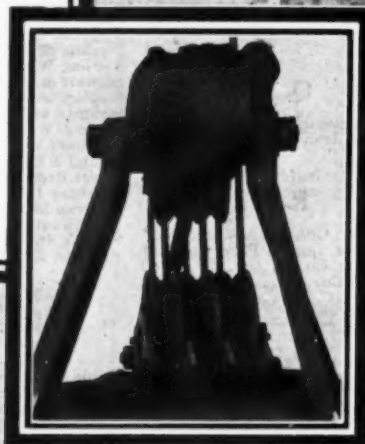
Consider the exclusive method, in Owen Clamshell Buckets, of mounting the lower sheaves on the main counterweight—high up in the bucket construction—where they cannot work in, and rarely come in contact with material.

Owen sheaves are large in diameter, properly grooved . . . upper and lower sheaves always in rigid alignment. There is no tipping—no side bends—no reverse bends so destructive to cables.

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Send for an Owen Folder describing the 17 Points in detail—or a Catalogue showing all types of Owen Buckets.

THE OWEN BUCKET CO.
6015 Breakwater Ave. Cleveland, Ohio

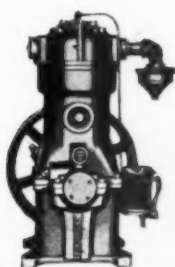


17 POINTS OF LEADERSHIP

1. One-piece steel cross-head.
2. No wear in upper or lower arm ends.
3. Heavy high carbon steel arms.
4. Adjustable undiminished closing power.
5. Long life to sheaves and cable.
6. Long arm bolt bearings sealed from grit.
7. Lever type steel arm brackets.
8. Closing cable is protected against excessive wear.
9. Heavy shock-resisting renewable lips.
10. Cable clips eliminated.
11. Sealed center shaft bearings.
12. Greater digging power with no dead weight.
13. Penetration and clean dumping.
14. Dropping shocks absorbed, eliminating breakage.
15. Rigid shell construction.
16. Heavy duty high carbon drop-forged steel teeth.
17. Lips or teeth points hit first.



Owen Buckets

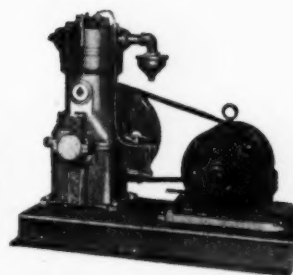


Model W

Water cooled. Four sizes, from 4 x 3½ to 5½ x 5 Duplex. Displacements, from 15 cu. ft. to 128 cu. ft., depending upon size of compressor and horse power of motor. Maximum pressure, 150 lbs. Illustration shows automatic unloader for maintaining uniform pressure under continuous operating conditions.

Model WD

Single stage, water cooled, quiet, with multiple V-Belt drive. May be had with automatic pressure control or automatic unloader for either intermittent or continuous operation. Displacements from 15 cu. ft. to 128 cu. ft.



Compressed Air Flexible—Economical

Manufacturers are rapidly discovering that compressed air is more suitable for many operations, than any other power.

Its flexibility and the ease with which pneumatic tools may be handled, are remarkable. It's versatile, too, doing almost anything, from operating a pneumatic lift to blowing dust or lint from machinery.

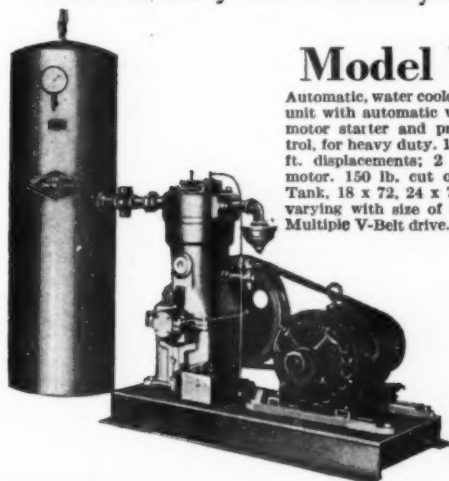
While flexibility and versatility are in-

herent properties of compressed air, you must look to Quincy Compressors for the utmost in economy, for the entire Quincy Line is designed and built with economy as the goal—economy in power requirements, in maintenance, in replacements.

Quincy Compressors are backed by a warrant of complete satisfaction without a time limit.

14 sizes—water cooled and air cooled.

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Automatic, water cooled, complete unit with automatic water valve, motor starter and pressure control, for heavy duty. 15 to 128 cu. ft. displacements; 2 to 25 h.p. motor. 150 lb. cut off pressure. Tank, 18 x 72, 24 x 72, 30 x 72, varying with size of compressor. Multiple V-Belt drive.

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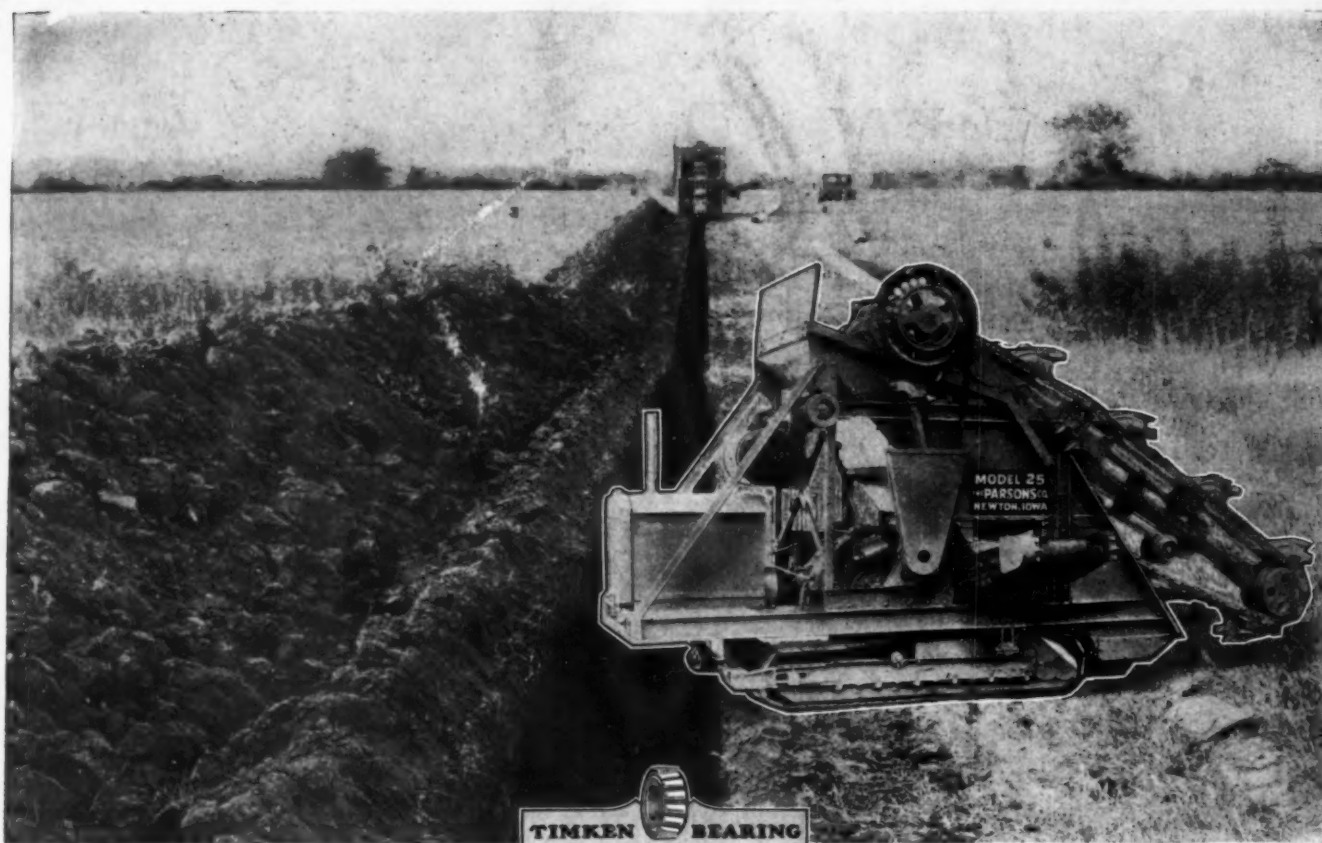
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Speed, modern industrial taskmaster, considers no weakness and grants no respites...but Timkenized equipment fears no task and asks no favors.

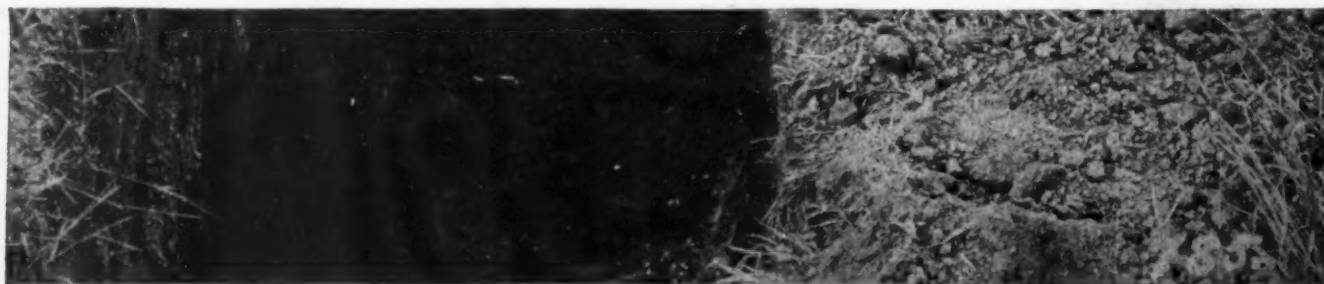
So The Parsons Company, Newton, Iowa, have matched the inexorable demands of speed in ditch digging with the exclusive combination of Timken tapered construction, Timken

POSITIVELY ALIGNED ROLLS and Timken-made steel.

Through this combination, shafts and gears are properly supported, fully protected against torsional strain and permanently maintained in alignment. Radial, thrust and combined loads are not only carried—but carried with a wide margin of safety. Friction is practically eliminated. Fuel and lubricant savings are considerable.

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